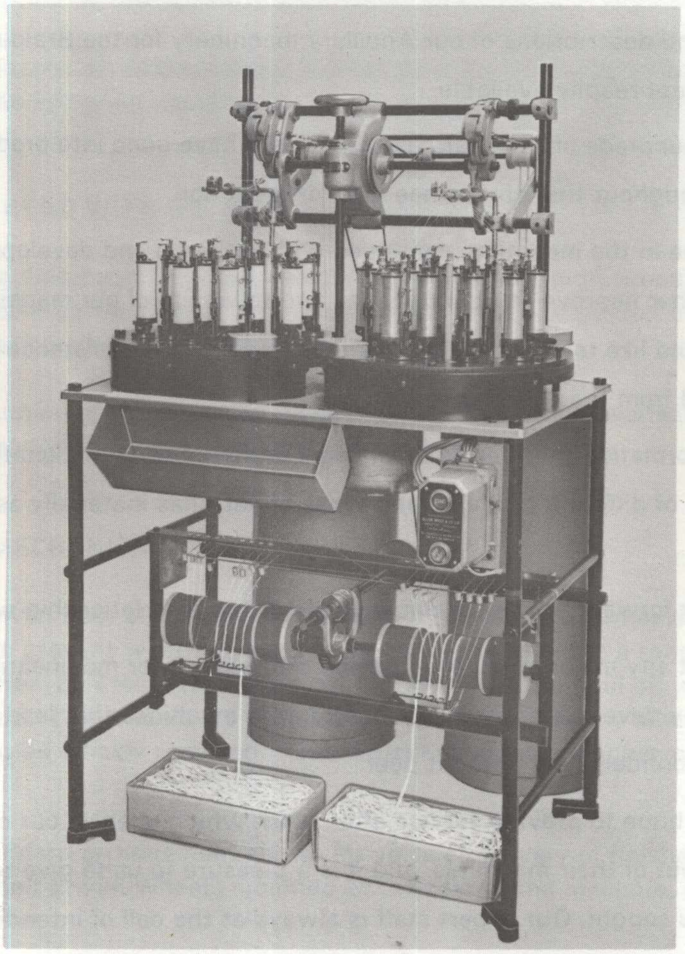
Hobourn "High-Speed" Braiders

For the production of Rigid or Elastic Braids



HOBOURN AERO COMPONENTS LIMITED

STROOD · ROCHESTER · KENT · ENGLAND

TEL. MEDWAY 77733 · GRAMS-CABLES POLAR ROCHESTER · TELEX STROOD 89104

HOBOURN

Hobourn High-Speed Braiders

WITH the introduction of the fourth issue of our Braider Catalogue, we have adopted this convenient binder. By this means our customers can file the various bulletins as issued in a handy form. Issues of maintenance instructions spares lists and descriptions of our Ancillary machinery for the Braiding Industry can thus be kept readily available.

Many hundreds of our High Speed Braiders have gone into production in countries throughout the world since their introduction.

We have in the meantime continued with research and development in our efforts to further improve the performance and reliability of our machines. At this stage we would like to acknowledge the ready advice and assistance which we have received from the Braiding Industry.

The information received from all users under all sorts of climatic conditions with all kinds of differing products and types of yarn has materially assisted our design Staff.

We look forward to the continuance of our happy relationship with the Industry.

Without any major changes in design but with minor modifications reflecting normal healthy development we continue to offer machines that lead the world and, we are confident, are without peer.

We continue to provide service after sales, which enables our customers to get the best out of their machines, and it is a pleasure to us to give technical advice whenever it is sought. Our expert staff is always at the call of intending and established customers.

The range of machines has been considerably extended and continues to *expand to meet the rising needs of the market. This range is illustrated in the* ensuing pages.

HOBOURN AERO COMPONENTS LIMITED
ROCHESTER, ENGLAND.

Hobourn High-Speed Braiders

As a result of much research and practical experience, HOBOURN Braiders are designed and produced to give maximum production together with reliability.

HOBOURN Braiders are manufactured by the most up-to-date production methods involving fine precision work as employed in the automobile and aircraft industries. Each machine is fully tested before despatch.

These machines embody many outstanding features which are more fully decribed in the following paragraphs.

TRACKLESS HEAD WITH OIL BATH

The Braiding head has been designed to operate at high speeds. There is no track, the bobbin carriers being actuated by horn gears and guided by wear resisting cross over inserts which are immersed in an oil bath.

Construction of the head can be seen in the illustration overleaf which shows a standard head with the top plate and 2 horn gears removed.

HAUL OFF MECHANISM

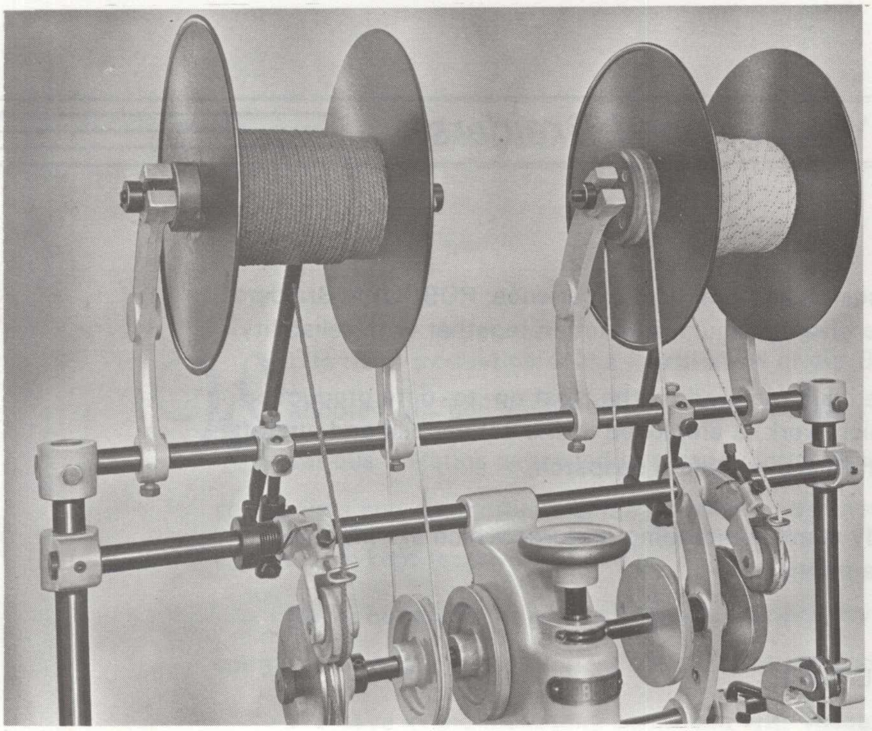
Gear driven haul off wheels are fitted to each head, the wheels being hardened and knurled to prevent wear and slip. They can be supplied in a range of sizes from 1" diameter (25.4 mm.) to 4" diameter (101.6 mm.). One haul off wheel is supplied with each head. The wheels are secured to the driving shaft by means of a knurled nut which can be quickly removed. Thus wheel changes are achieved in a matter of seconds.

The standard arrangement allows for vertical delivery of finished braid by means of additional belt driven wheels mounted at the rear of the machine, into any suitable type of container.

On round braiders haul off wheels fitted are generally grooved unless tubular flat braids are to be made when a standard flat wheel can be supplied. For very fine braids such as fishing lines, a 3-grooved wheel is employed.

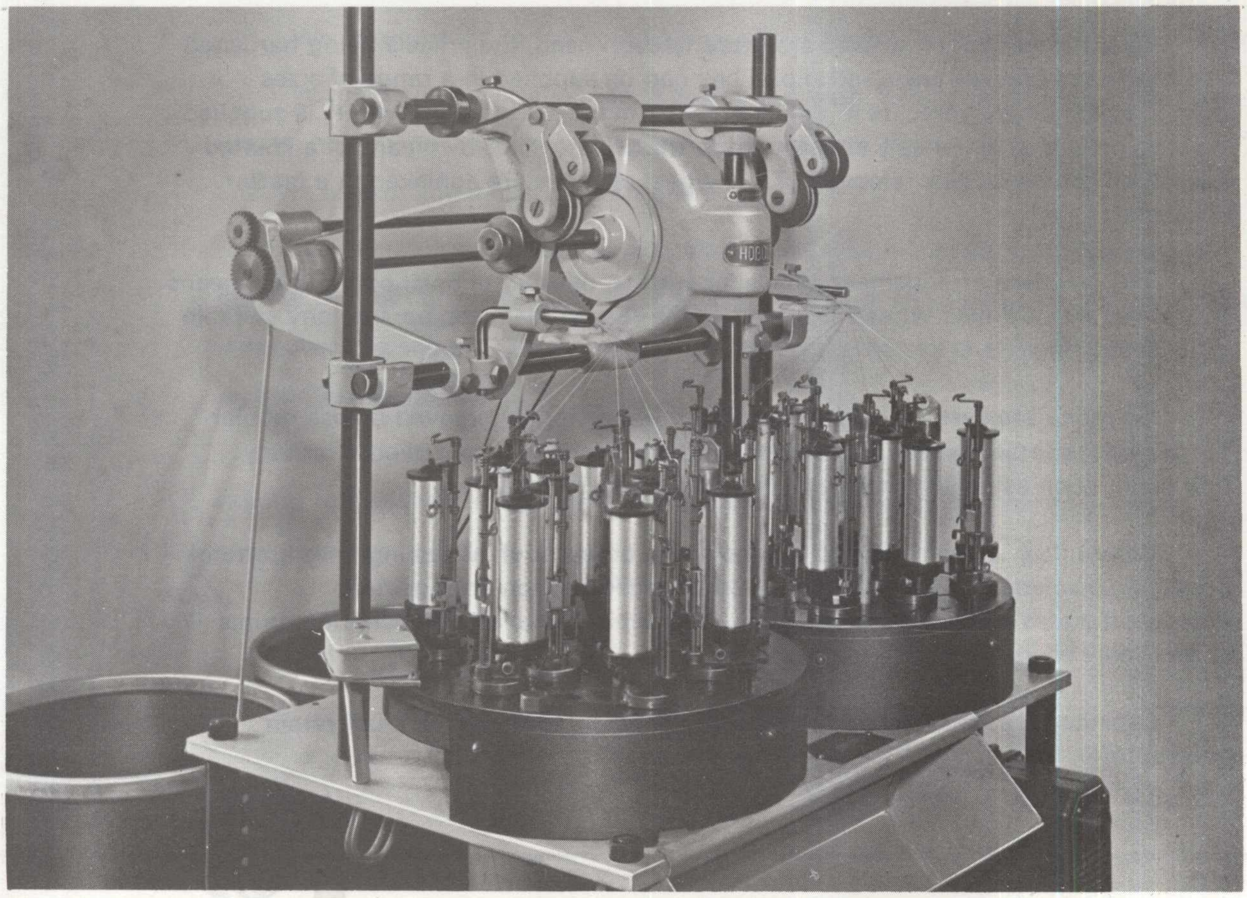
Where floor space is limited or where fine braids such as fishing lines are to be produced, machines may be fitted with Overhead Reception arrangement.
This incorporates a stylus type of traverse arm which enables the reception drums to be evenly filled.

Capstan type haul off is also available for heavy cords which must retain circular form.



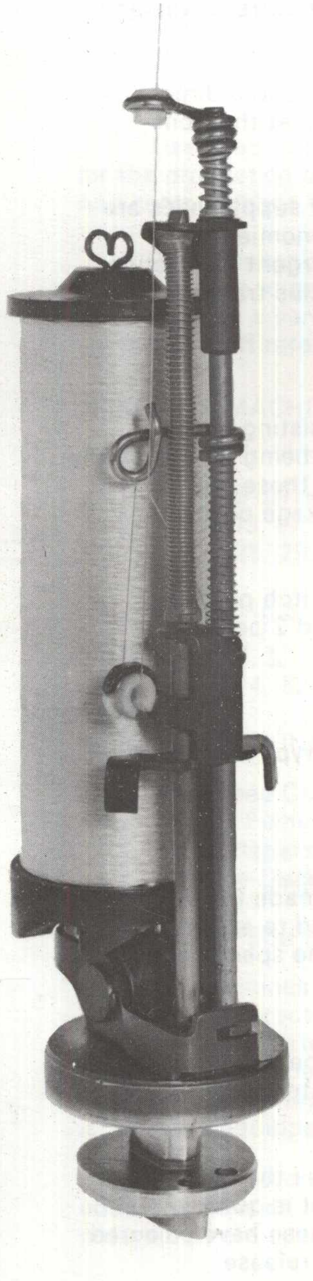
On the left is a view of an overhead reception unit. The drums are driven from the haul-off shaft. The stylus arm lays the braid on the drum. This unit is very convenient where floor space is limited and is recommended for use when fine braids are being made.

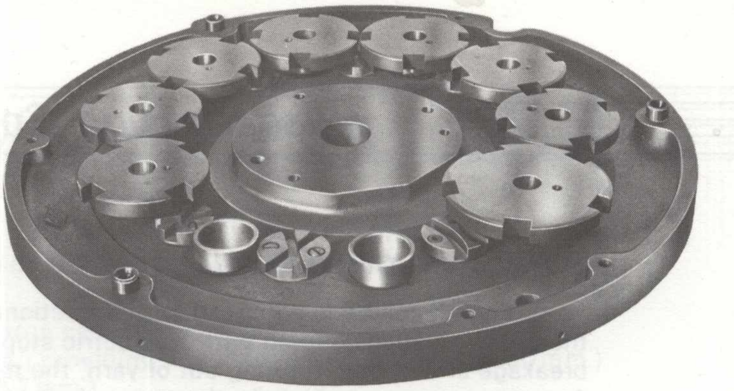
Below is pictured a general arrangement of a standard two head machine set up for rayon elastic production. The braid being delivered by means of auxilary haul of wheels to containers at the rear of the machine. In the illustration Plastic Bobbins are employed on the carriers, these can be obtained from 'Hobourns'.



Below can be seen the "Hobourn" High-Speed Carrier, its features being clearly illustrated

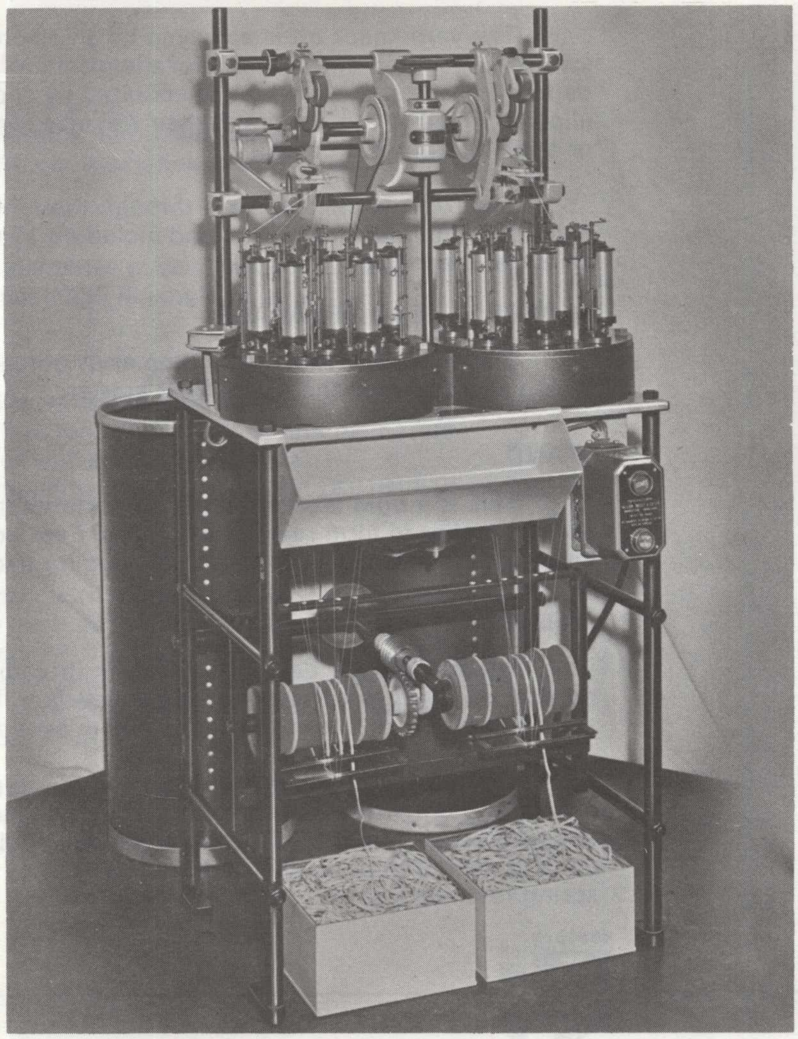
The carrier bases are made from steel, the tops can be either in steel or in a thermoplastic removable moulding according to customers requirements.





Illustrated above is a head casting, the top plate having been removed to show the inserts which guide the carriers from one horn gear (driving plate) to the succeeding one. The horn gear bushes can also be seen. The dish-shaped casting forms the oil bath so that the carrier bases are thus constantly lubricated. All the components are machined to high standards of accuracy.

Pictured below is a 13 carrier machine which illustrates the rubber feed arrangement using ring ribbon thread.



HOBOURN

Hobourn High-Speed Braiders

INDIVIDUAL MOTORISATION

Each machine is equipped with a fractional horse power motor mounted under the table which is coupled with an electric stop motion, so that in the event of a yarn breakage or a bobbin running out of yarn, the motor is automatically stopped. A continuous gear train links the motor shaft to the braiding heads.

Economy in operation results in the employment of this form of drive since the transmission losses inherent to line shafting and pinion gearing are eliminated. The motor runs at maximum efficiency with an absolute minimum of current wastage, and is only running whilst the machine is actually producing

Stopping and starting are controlled by push buttons incorpated in a direct on line starter which is mounted at a convenient height on the frame at the front of the machine.

Installation costs are lowered since the provision of the power supply leads are the only preliminary to putting the machines into work. Further economies are achieved where small numbers of machines are required to run on urgent production orders. Maximum flexibility in the layout is permitted by the use of this transmission method.

ELECTRIC STOP MOTIONS

The yarn knock off is achieved by an electric stop motion consisting of trip switches mounted on the heads of the machine. The electric circuit being broken by the depression of a trip bar which is actuated by sliders on the carriers, these are allowed to fall to the bottom of their traverse range when yarn breakage occurs or a bobbin runs out of yarn.

The trip switches operate through the on line starters, one switch per head being fitted to machines up to and including 17 Carrier machines and 2 per head on larger machines.

RUBBER THREAD BREAKAGE

This is controlled by wire drop arms actuating a quick re-set type micro-switch which also operates the Allan West starter.

STAND

This is a rigid fabricated bar steel stand and and provision is made for bolting them together to form rows of machines. Foot adjustment is provided to assist levelling and anti vibration noise, dampening pads are included in the specification.

CARRIER

The carriers are designed for quick threading which enables the maximum number of heads to be maintained per operator. Polished hardened steel pigtails are available as an alternative to porcelain eyes and hooks.

The tensioning mechanism is smooth and sensitive and handles the finest counts of yarn without 'ballooning'. Tension adjusTension adjustment is quickly and easily carried out by the use of standardised tension springs. These have coloured ends to denote their weight and are changed by lifting up the quick release spring retainer bracket.

Bobbins or cops can be employed on the carriers and are held in position by an automatic lock and release spring.

The standard carrier will carry a large capacity bobbin of $1\frac{7}{16}$" diameter (36.5 mm.) with an overall length of 5⅛" (130.17 mm.) providing a wound length of 4½" (114.30 mm.) the centre core being 11/32" diameter (8.7 mm.)

A larger size of carrier is used on the big bobbin 16 and 24 Carrier Machines which are described in our leaflet GB/49.

RUBBER FEED

The unit illustrated on the previous pages can be supplied to suit all machines, the stands being drilled to allow fitment.

Designed to provide a controlled rate of feed to the braiding heads an essential for the production of first quality elastic braid it can equally well be employed to feed and control ribbon type rubber thread or extensible synthetic yarns.

The mechanism is positively driven by means of a worm and worm wheel, a multiple stepped grooved pulley being driven from the haul off shaft by means of a belt, allowing a variation of the rate of feed within limits but closely controlled by the haul off rate.

RANGE OF MACHINES

The following range is available for flat rigid or elastic braids:

9 carrier machines in four head units.
13, 17, and 21 carrier machines in two head units.
25, 29, 33, 37, 49 and 65 carrier machines in single head units.

For round or tubular flat braids:

4, 8, 12, 16 and 20 carrier machines in two head units
24, 32, 40 and 52 carrier machines in single head units.

SPECIAL MACHINES

Six Head Candlewick Braiders, Three carriers per head.
Taper Fishing Line Braiders with automatic control of line diameters, tapers and lengths. Ask for leaflet AUTOLINE/16C
Double Decked Braiders for Trampoline cords, etc. leaflet DOUBLEDECK/16L.

GENERAL SPECIFICATION

All machines aretsupplied equipped with stand, built-in electrical equipment consisting of direct on line starter with push button control, fractional horse motor wired for immediate installation and automatic trip switches. Braid haul off unit of pressure roller type, or capstan type if specified, fitted with 1 haul off wheel per head or 1 pair of lay gears according to type of haul off. A complete set of carriers is provided equipped with standard tension springs.

Rubber feed mechanism, overhead reception drum mechanism, bobbins, additional tension springs and haul off wheels are available at an extra charge as ordered, as are special attachments Ric-Rac, Picot Edge and other fancy braid productions.

Hobourn High-Speed Braiders

WEIGHTS AND DIMENSIONS

Type	Net Weight	Width	Depth	Height of Table	Height Overall
8 carrier	2 cwt. 1 qr. 115 kilos	28" 71 cm.	18½" 47 cm.	31" 79 cm.	53" 134 cm.
12, 13 carrier & 6 Head Candlewick m/c	2 cwt. 2 qrs. 127 kilos	24" 61 cm.	17" 43 cm.	"	"
16 & 17 carrier . . .	2 cwt. 3 qrs. 140 kilos	28" 71 cm.	18½" 47 cm.	"	"
20 & 21 carrier . . 9 carrier	3 cwt. 3 qrs. 191 kilos	32½" 83 cm.	21" 53 cm.	"	"
25 carrier . . . . . 29 carrier	3 cwt. 153 kilos	24" 61 cm.	21" 53 cm.	"	"
32 & 33 carrier . . .	4 cwt. 204 kilos	26½" 67 cm.	24" 61 cm.	"	56" 142 cm.
37 & 40 carrier . . .	4 cwt. 1 qr. 216 kilos	30½" 78 cm.	26½" 67 cm.	"	"
49 carrier	7 cwt. 1 qr. 10 lb. 373 kilos	40" 102 cm.	34" 86 cm.	"	60½" 154 cm.

SHIPPING SPECIFICATION

Before erection our Notes on Installation should be carefully read.

Type	Gross Weight	Width	Depth	Height
8 carrier	3 cwt. 1qr. 168 kilos	2'9" 84 cm.	2'2" 66 cm.	3'10" 117 cm.
12, 13 carrier & 6 Head Candlewick m/c	3 cwt. 2qrs. 178 kilos	2'4" 71 cm.	2'1" 64 cm.	3'8" 112 cm.
16 & 17 carrier . . .	3 cwt. 2 qrs 14 lb. 185 kilos	2'9" 84 cm.	2'2" 66 cm.	3'10" 117 cm.
20 & 21 carrier . . . 9 carrier	4 cwt. 3 qrs. 242 kilos	3'0" 92 cm.	2"2" 66 cm.	3'11" 119 cm.
25 carrier . . . . . 29 carrier	4 cwt. 204 kilos	2'5" 74 cm.	2'1" 64 cm.	3'10" 117 cm.
32 & 33 carrier . . .	5 cwt. 255 kilos	2'7" 79 cm.	2'5" 74 cm.	4'0" 122 cm.
37 & 40 carrier . . .	5 cwt. 1 qr. 267 kilos	2'11" 89 cm.	2'6" 76 cm.	4'2" 127 cm.
49 carrier	8 cwt. 3 qrs. 445 kilos	3'8" 112 cm.	3'2" 97 cm.	3'10" 117 cm.

All weights and sizes are approximate; metric equivalents quoted are correct to nearest kilo or centimetre.

Please Note: Before erection our advice on installation should be carefully read and followed.

HOBOURN AERO COMPONENTS LIMITED
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HOBOURN

INSTALLATION AND MAINTENANCE INSTRUCTIONS

HOBOURN BRAIDERS

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HOBOURN AERO COMPONENTS LIMITED
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Installation Instructions

INSTALLATION

The machines should be grouped in types, either side by side or back to back. If the machines are to be side by side make sure that sufficient space exists between each machine to avoid damage to the yarn breakage trip switches which on some machines protrude over the edge of table top.

If the machines are to be back to back make sure that sufficient space exists for a suitable gangway.

The machines must be correctly levelled by the adjustable feet of each machine leg. **Do not connect up the Electric Power at this stage.**

CHECKING HORN GEAR SLOTS AND LEVELS

By the use of a slot checking gauge HD 41161 see that opposing slots of the horn gears are in line. If no gauge is available feel the slots lightly with the finger tips.

If any horn gears are out of line, slacken off the cap screw of the appropriate driving gear and by gently tapping on the slot face with a brass rod or piece of hardwood, bring the slot into line.

Re-tighten the driving gear cap screw.

All horn gear (driving plate) top surfaces must be level, this can be ascertained by laying a straight edge across the horn gears. Any that may have moved during transport should be levelled to the others by slackening the driving gear cap screw and gently tapping as above.

Re-tighten the driving gear cap screws.

LOADING THE CARRIERS

1. Remove the extraction plate.
2. Lightly grease the horn gear slots.
3. Place a carrier into slot **Bobbin Leading.**
4. Rotate the handwheel in the direction of the arrow and load the remaining carriers into every **Alternate** horn gear slot. On **"Round"** braid braiding machines **Half** the carriers only should be loaded this way the other half by inserting the carriers into the slot in the **Left** hand horn gear.
5. Replace the extraction plate and locking screws and firmly tighten the screws and the hexagonal headed dowel.
6. Rotate the head by the handwheel to check the correct loading of the carriers and to see that the machine is free.

ELECTRICAL

1. See that the voltage characteristics on the motor label are correct for the mill voltage supply. Both motors and starters have wiring diagram leaflets attached to them.
2. Earth the machine frame.
3. Connect 3 feed wires to terminals.
4. Check rotation of motor is correct to the arrow on the handwheel shaft housing. If necessary change over two wires for correct rotation.

Please use this space for your Personal Notes

ADJUSTMENTS AND REPLACEMENTS

TO VARY YARN TENSION

This is acheived by changing the long compression springs on the carriers, as follows: –

Lift the tension spring bracket (old part No. HD 45936) new HD 46913, Page 1. Spare Parts Catalogue and give a half turn to the left, thus exposing the spring which can be removed, and a new spring fitted.

To replace the tension spring retainer bracket, press it below the level of the top of the spring post and give it a half turn to the right.

Note

Drawing HD 41844 gives full details of tension spring pounds per inch rating, the standard spring is coloured blue. A tension spring chart is detailed on page 6 of these Instructions.

TO VARY HAUL OFF SPEED

This is done by fitting one of the many alternative sizes of Knurled Haul off Wheels in place of the standard wheels.

The Haul off Wheels are keyed to the Driving Shaft and can be pulled off sideways after removal of the Knurled Retaining Nut, or, Oddie Nut.

Two start worm wheels are available if extremely fast haul off speeds are required.

TO DISMANTLE A HEAD

A. Disconnect Power Supply.

B. Cover the Rubber Feed Unit.

C. Remove the Carriers.

D. Remove the Needle Holders and Needles.

E. Remove Haul off Unit complete by: –
   1. Slackening Handwheel Shaft Gear Retaining Screws.
   2. Removing Handwheel Post Securing Nuts.

F. Remove hexagon head securing screws which hold the head to the Table Top.

G. Remove cover of Yarn Trip Switch and disconnect 2 wires.

The Head can now be lifted away from the Table Top leaving the Rubber Guide tubes in position.

REMOVAL AND RE-ASSEMBLY OF HORN GEARS (DRIVING PLATES)

Remove carriers, loosen driving gear securing screws and remove Horn Gears.

RE-ASSEMBLY

A. Replace No. 1 Horn Gear and Driving Gear, tighten Unbrako screw.

B. Set the Leading Horn Gear slot faces, in line.

C. Take up backlash by turning the gear train in the normal operating direction and bring each gear into mesh.

D. With the Unbrako screws tightened firmly, check the Horn Gear slots for timing by gauge or by feeling the leading slot faces with the finger.

E. Replace the last two driving gears together, check that all Unbrako screws are tight and re-check timing of Horn Gear slots.

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AIDS TO GOOD BRAID PRODUCTION

1. See that the braid guide is level and central over the head.
2. If braid guide needles are fitted see that they are equally spaced either side of the braid guide slot, that they are the same length, that the points are smooth and polished and that the points are not too far from the braid guide slot or too far below it.
3. See that the yarn is correctly wound on to the ratchet-bobbins and that the traverse during winding is not less than 3⅜" otherwise the yarn will be trapped at the bobbin ends causing snatching during braiding, resulting in a bad, wavy edged, crinkled braid.
4. See that excessive oil or grease does not accumulate on the machine this can lead to spoiled braid.
5. See that the correct size haul off wheel is used. If the wheel is too small, the point of braid will run downwards causing the yarn to become entangled with the carriers and serious damage will result.
6. Never place tools near the carriers whilst they are in motion. Doing so can cause serious damage.
7. On round braiders, core yarns are passed up through a centre hole in the machine head. Sufficient tension must be applied to the core yarns otherwise a "corkscrew" type braid will be produced. On the other hand too much tension will result in the core being too thin thus allowing the outer braided cover to slide too easily over the core.
8. Threading up of the carriers should be as the Photographic illustration on page 8 of these Instructions. Most carriers now have Porcelains fitted to the top guide and to the latches.

   To commence yarn braiding, take the ends from each carrier bobbin and hold the yarns in the correct braid guide slot approximately 1–2" **Above** the slot. At least 12" of yarns should be braided by operating the push button starter making sure that the braiding point does not fall below the braid guide.

   Shut the machine off and pass the braid round the haul off wheel and pressure roller as shown on page 8 of these Instructions. See that the point of braid is just below the braid guide disc at this stage.

   The starter button can now be operated to commence machine braiding. See that the braid passes through the rear take off unit and that it does not drop down into the moving carriers.

   On machines having overhead reception drums, enough yarn ends must be gathered up to tie on to the drum barrels, passing firstly through the Stylus Arms, before braiding is commenced.
9. When elastic braid is being produced the ends of the rubbers must be passed up through the rubber guide tubes to the braid point as illustrated on pages 7 and 8 of these Instructions.

   The speed at which the rubber is fed should be adjusted to requirements by choosing the appropriate groove in the wooden cone pulley at the back of the machine.

   Elastic web width and stretch can also be altered by varying the size of the knurled haul off wheel.

   Each rubber must be equally tensioned otherwise an uneven braid will be produced. If the rubbers are held above the braid guide disc in one group and a basic braid already made of yarn only, then on starting up the machine the rubbers will automatically be plaited into the braid.

   The input speed and tension of the rubbers can afterwards be adjusted to your personal requirements.

   To ensure first quality straight elastic each rubber thread should be wrapped 3 times round the feed drum to avoid slip, the thread being passed through the guide bar on each Wrap as illustrated on page 7 of these Instructions.

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LUBRICATION AND CALCULATIONS

LUBRICATION

1. Removal of the Extraction Plate from the Head will enable a check to be made that the oil level in the well of the head casting is one third (3 to 4 m.m.) up the bronze inserts, one of which will be visible.

   This level **Must** be maintained. The recommended oil is **Shell Vitrea 75.**

   The oil can be drained when it becomes dirty by removing the Oil Drain Plug located at the front of each head under the Front Head Guard.

Horn Gears (Driving Plates)

2. Put a few drops of oil into the oil holes in the top of the Horn Gears **Daily** and examine at monthly intervals when, if necessary, the Horn Gear Slots should be lightly smeared with grease.

Motor Pinion and Gear Train

3. Oil weekly – not less.

Carriers

4. **Very Lightly** oil the inner Spring Rod and Trip Lever Spring Rod at least once a week. Remember, too much oil will contaminate yarn on the Bobbins, lack of oiling will result in a **"Jerky"** take off action of the yarn from the bobbin which will produce a bad Braid. A very thin oil should be used, we recommend **Shell Carnea Oil 21.**

The 'Hobourn' Braiding Machine is built to fine limits, thus, provided the machine is carefully maintained and correctly lubricated, it will give excellent service.

BRAID PRODUCTION CALCULATIONS

"Hobourn" Braiders are basically designed to give a two over one Braid Stitch construction and with this arrangement a production of 500 stitches per minute can be attained, dependant on the type of Braid being produced.

Below, is a Production Assessment Example

At 500 Stitches per minute
with a Braid having 25 Stitches $= \frac{500}{25} =$ 20 inches (50.8 cm) per minute per inch

or $\frac{500 \times 60}{25 \times 36} =$ 33⅓ yards (30.4 metres) approximately per hour

For **Rough** calculations, divide the number of Stitches per inch into 800.

Example Using the same Braid as above with 25 Stitches per inch.

$\frac{800}{25} =$ 32 yards (29.2 metres) approximately per hour

For machines running less than 500 Stitches per minute use the same basic formula as above, but substitute the **Actual** speed for the 500 figure.

For any further information please write to –

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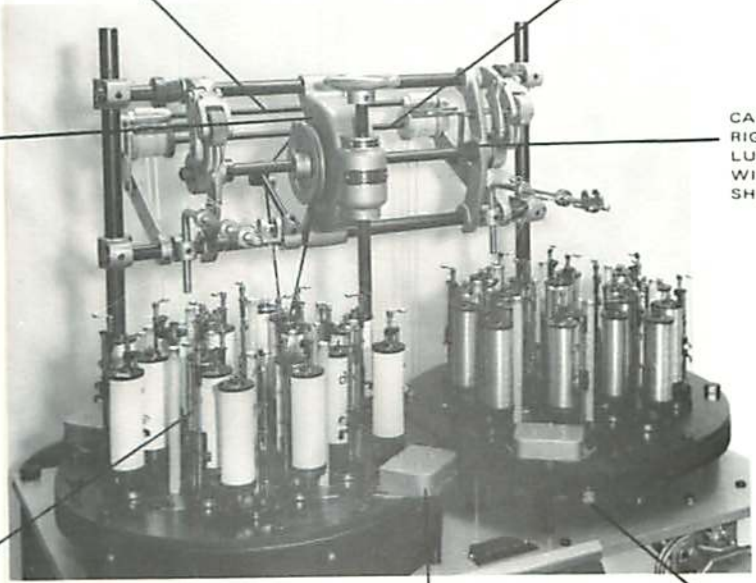
LUBRICATION



REAR TAKE OFF UNIT.
USE SHELL ALVANIA GREASE 3
FOR TOP SPINDLE BEARINGS
AND SHELL VITREA 75 FOR
BOTTOM SPINDLE BEARINGS.

HANDWHEEL SHAFT BEARING
LUBRICATE WITH SHELL VITREA 75
A FEW DROPS TWICE WEEKLY.

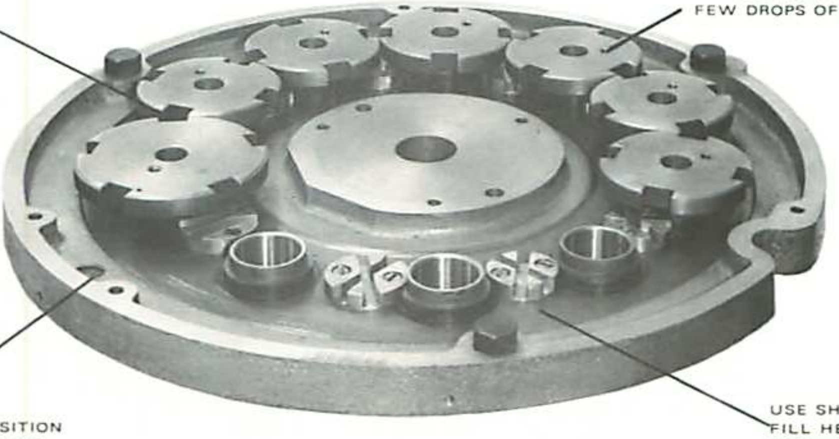
WORMWHEEL
KEEP SLIGHTLY
SMEARED WITH
SHELL ALVANIA
GREASE 3

CAPSTAN SHAFT BEARING
RIGHT AND LEFT HAND.
LUBRICATE TWICE A WEEK
WITH A FEW DROPS OF
SHELL VITREA 75.

CARRIER RODS.
USE TWO OR THREE DROPS
ONLY. ONCE A WEEK. OF A
VERY THIN OIL.
THE OIL RECOMMENDED IS
SHELL CARNEA OIL 21.

GEAR TRAIN. OIL GEAR SPINDLES DAILY
WITH A FEW DROPS OF SHELL VITREA 75
KEEP GEARS LIGHTLY SMEARED WITH
SHELL ALVANIA GREASE 3
GEAR TRAIN IS AT THE BACK OF THE
MACHINE BETWEEN THE BRAIDING HEADS.

INVERTED DRIVE GEARS.
KEEP LIGHTLY SMEARED
WITH SHELL ALVANIA
GREASE 3.



KEEP HORN GEAR
SLOTS LIGHTLY
SMEARED WITH
SHELL ALVANIA
GREASE 3

HORN GEARS (DRIVING PLATES)
OIL HOLES.
LUBRICATE DAILY WITH A
FEW DROPS OF SHELL VITREA 75.

OIL DRAIN HOLE
SEE PLUG IS IN POSITION
BEFORE FILLING HEAD
WITH OIL.
REMOVE PLUG TO
FLUSH OUT DIRTY OIL.
RE-FIT PLUG.

NOTE.

FOR ALL OTHER MACHINE OILING POINTS
NOT MENTIONED ABOVE. USE SHELL
VITREA 75. FOR ALL OTHER GREASING
POINTS. USE SHELL ALVANIA GREASE 3

USE SHELL VITREA 75.
FILL HEAD ONE THIRD UP
BRONZE INSERTS. AND
MAINTAIN THIS LEVEL
(3 TO 4 M.M.)
DO NOT OVER FILL.

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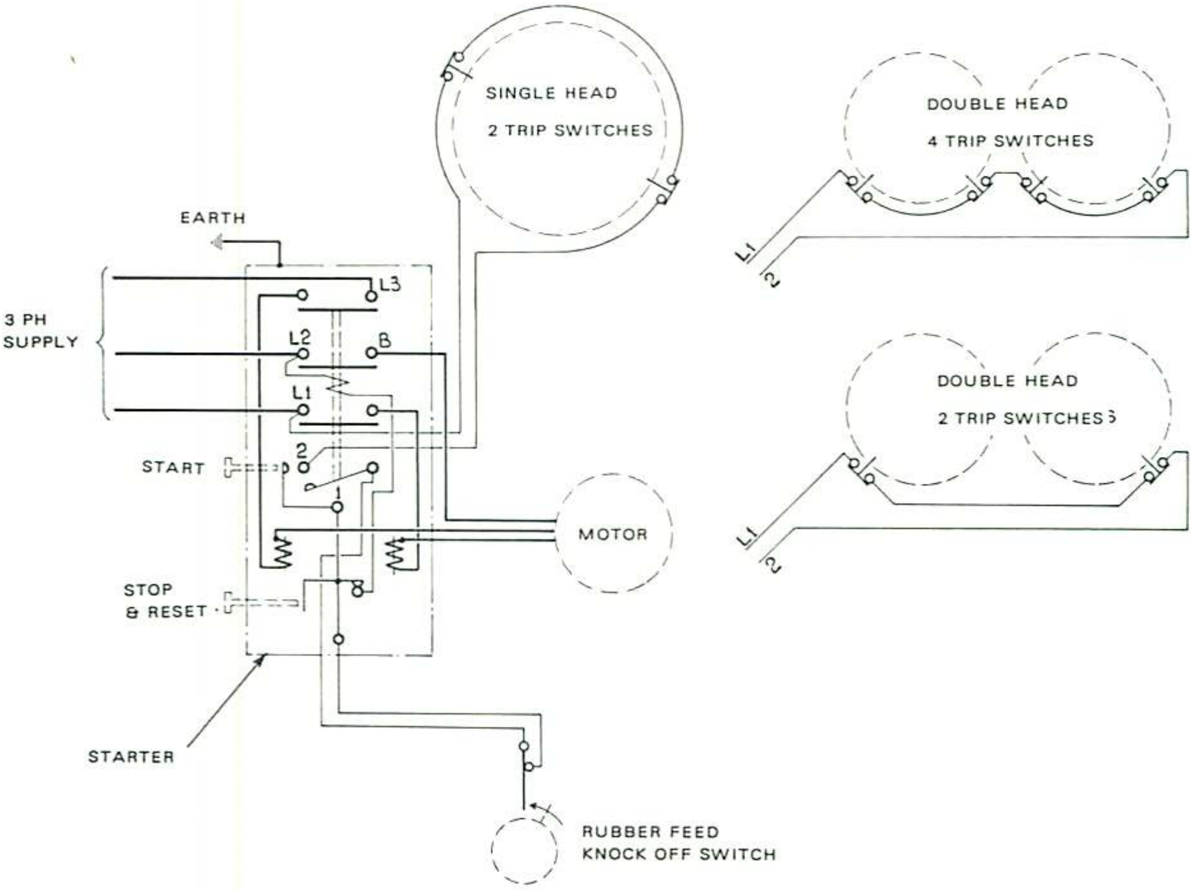
WIRING DIAGRAM



TENSION SPRING

PART No.	WIRE DIA.	IDENTIFICATION COLOUR	RATE IN LBS. PER INCH
HD. 41844/1	.010"	RED	.038
HD. 41844/2	.012"	BLUE	.076
HD. 41844/3	.008"	GREEN	.016
HD. 41844/4	.013"	BROWN	.103
HD. 41844/5	.015"	BLACK	.172
HD. 41844/6	.014"	WHITE	.136

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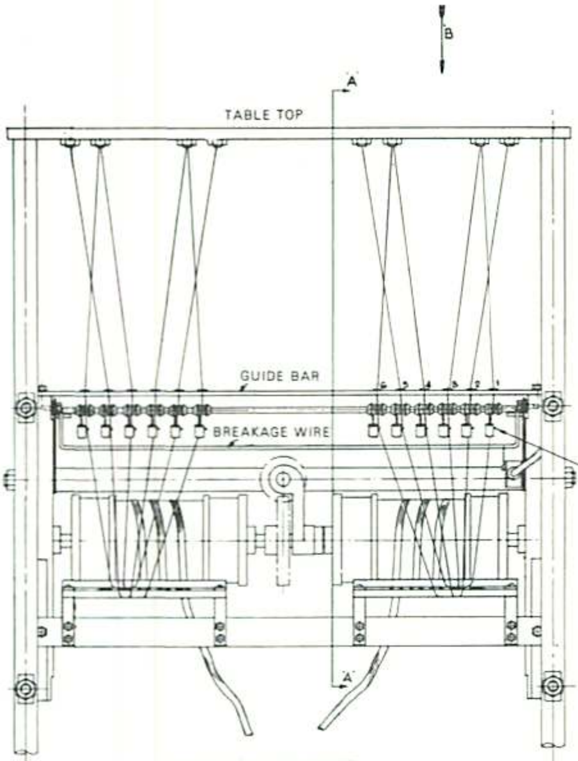
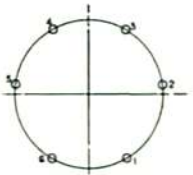
SETTING UP DETAILS FOR RUBBER THREAD INSTALLATION



FRONT VIEW OF MACHINE

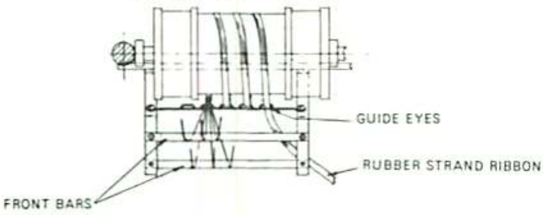
EYELETS IN TRIPPING ARMS
TO BE ALIGNED WITH EYELETS
IN GUIDE BAR

VIEW ON ARROW 'B'

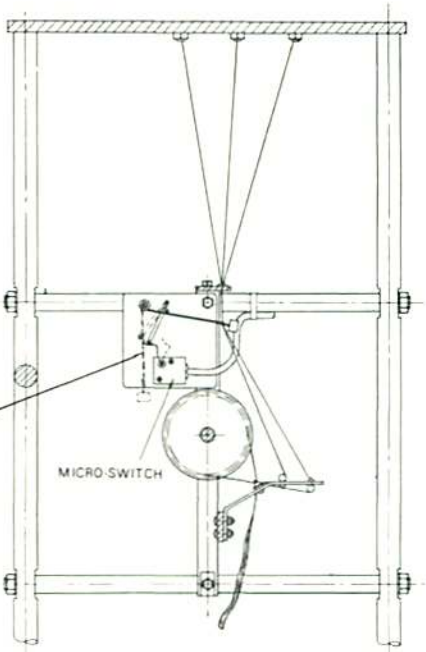


RUBBER STRANDS FROM GUIDE BAR
TO PASS THRO' CORRESPONDING
EYELETS IN TABLE TOP
(AS INDICATED BY No's SHOWN)

PLAN VIEW OF LET OFF DRUM



RUBBER STRANDS SEPARATE AT GUIDE
EYES AS SHOWN. ALTERNATE STRANDS
PASS OVER THE FRONT BARS OF RUBBER
THREAD SPLITTING DEVICE



SECTION ON 'A-A'

IN THE EVENT OF A RUBBER
STRAND BREAKING, TRIPPING
ARM SWINGS DOWN, KNOCKING
BREAKAGE WIRE BACK AND
RELEASING MICRO SWITCH ARM.
(AS INDICATED BY DOTTED LINES.)

TO RESET MICRO SWITCH, RE-
THREAD ELASTIC THRO' TRIP ARM
EYE & GUIDE BAR ETC. HOLD
BREAKAGE WIRE IN TRIPPED
POSITION & LIGHTLY PUSH MICRO-
SWITCH ARM BACK INTO POSITION
(AS SHOWN IN FULL). RELEASE
BREAKAGE WIRE TO HOLD MICRO-
SWITCH ARM IN POSITION.

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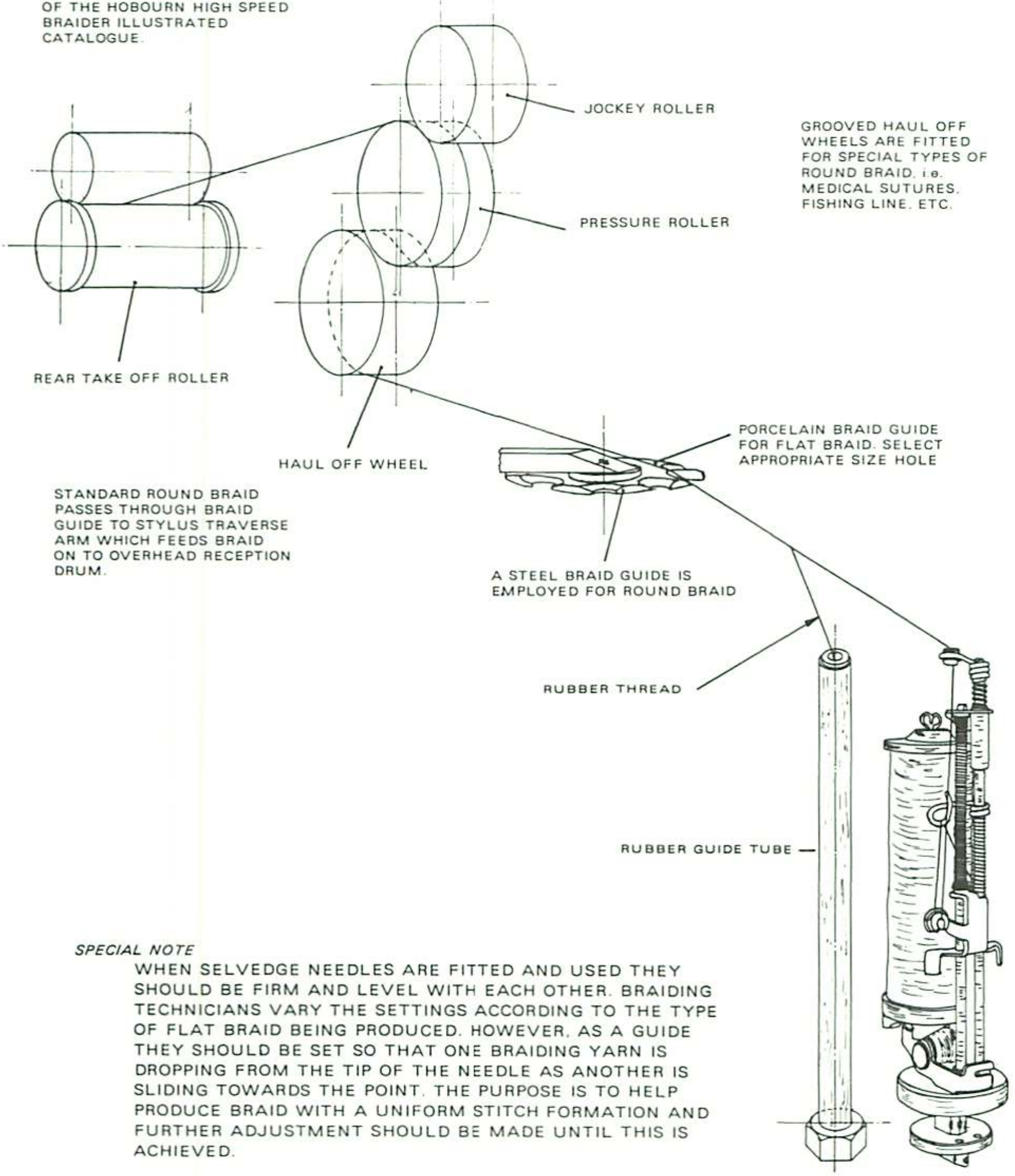
YARN STRING UP FOR HOBOURN BRAIDING MACHINES

AN ILLUSTRATION OF THE OVERHEAD DRUM RECEPTION UNIT CAN BE SEEN ON PAGE 4 OF THE HOBOURN HIGH SPEED BRAIDER ILLUSTRATED CATALOGUE.



GROOVED HAUL OFF WHEELS ARE FITTED FOR SPECIAL TYPES OF ROUND BRAID. i.e. MEDICAL SUTURES. FISHING LINE. ETC.

PORCELAIN BRAID GUIDE FOR FLAT BRAID. SELECT APPROPRIATE SIZE HOLE

STANDARD ROUND BRAID PASSES THROUGH BRAID GUIDE TO STYLUS TRAVERSE ARM WHICH FEEDS BRAID ON TO OVERHEAD RECEPTION DRUM.

A STEEL BRAID GUIDE IS EMPLOYED FOR ROUND BRAID

SPECIAL NOTE

WHEN SELVEDGE NEEDLES ARE FITTED AND USED THEY SHOULD BE FIRM AND LEVEL WITH EACH OTHER. BRAIDING TECHNICIANS VARY THE SETTINGS ACCORDING TO THE TYPE OF FLAT BRAID BEING PRODUCED. HOWEVER, AS A GUIDE THEY SHOULD BE SET SO THAT ONE BRAIDING YARN IS DROPPING FROM THE TIP OF THE NEEDLE AS ANOTHER IS SLIDING TOWARDS THE POINT. THE PURPOSE IS TO HELP PRODUCE BRAID WITH A UNIFORM STITCH FORMATION AND FURTHER ADJUSTMENT SHOULD BE MADE UNTIL THIS IS ACHIEVED.

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DIAMOND PATTERN OR 1 OVER 1 STITCH BRAIDS

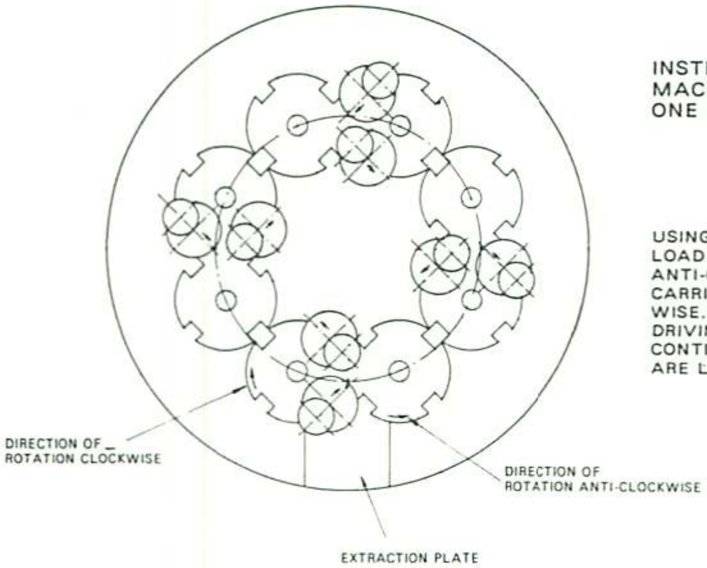
Round braiding machines are sometimes used to produce a 1 over 1 stitch braid instead of the standard 2 over 1 stitch construction.

When this type of braid is made half of the usual number of carriers, only, are used in each head. The carriers have to be loaded into the heads in a special way otherwise damage will occur to head parts.

The sketch below shows the correct carrier loading for 1 over 1 stitch on a 16 carrier machine. Any carriers removed from the heads must be re-loaded in the correct sequence.

If the head is needed for standard 2 over 1 stitch production, remove all the carriers and re-load them as detailed in the Installation Instructions in the front of this booklet.

Before running the machine for 2 over 1 stitch braid make sure that a larger haul off wheel is used otherwise the point at which the yarns form a braid will gradually move downwards and become entangled with the carriers thus causing serious damage.


DIRECTION OF ROTATION CLOCKWISE
DIRECTION OF ROTATION ANTI-CLOCKWISE
EXTRACTION PLATE

INSTRUCTIONS FOR LOADING 16 CARRIER MACHINE WITH 8 CARRIERS FOR ONE OVER ONE STITCH PRODUCTION

USING 8 CARRIERS WITH BOBBIN PEG LEADING. LOAD 1 CARRIER INTO DRIVING PLATE TURNING ANTI-CLOCKWISE. MISS 2 SLOTS. INSERT 1 CARRIER INTO DRIVING PLATE TURNING CLOCKWISE. IN NEXT SLOT INSERT 1 CARRIER INTO DRIVING PLATE TURNING ANTI-CLOCKWISE. CONTINUE THE SEQUENCE UNTIL ALL 8 CARRIERS ARE LOADED ONTO MACHINE.

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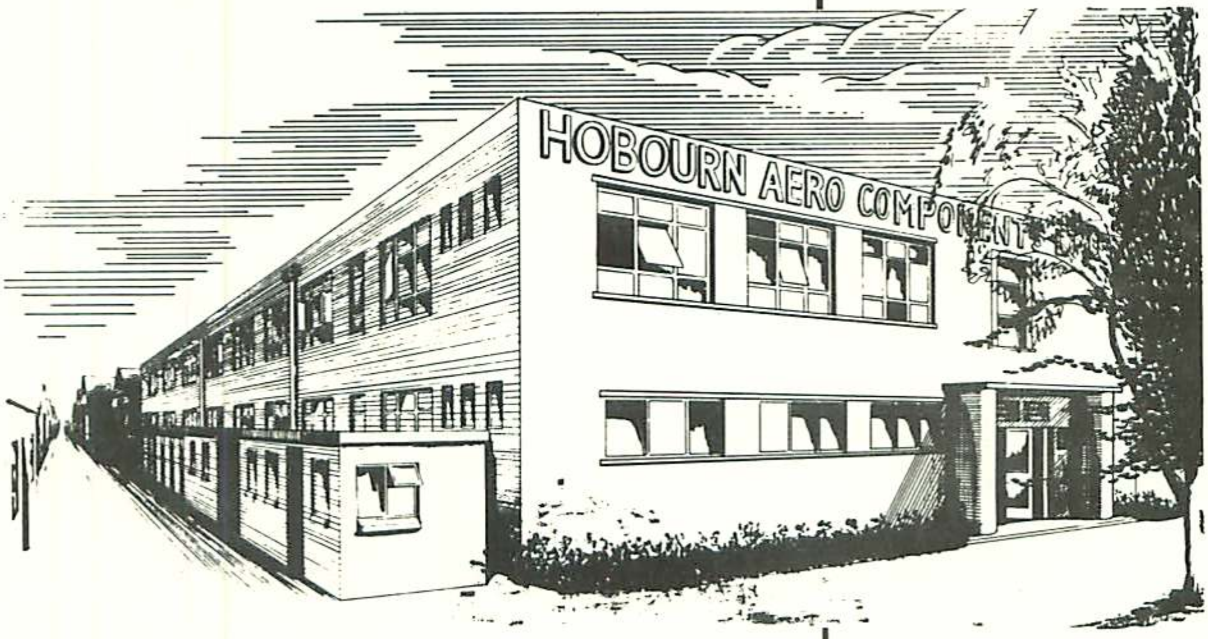
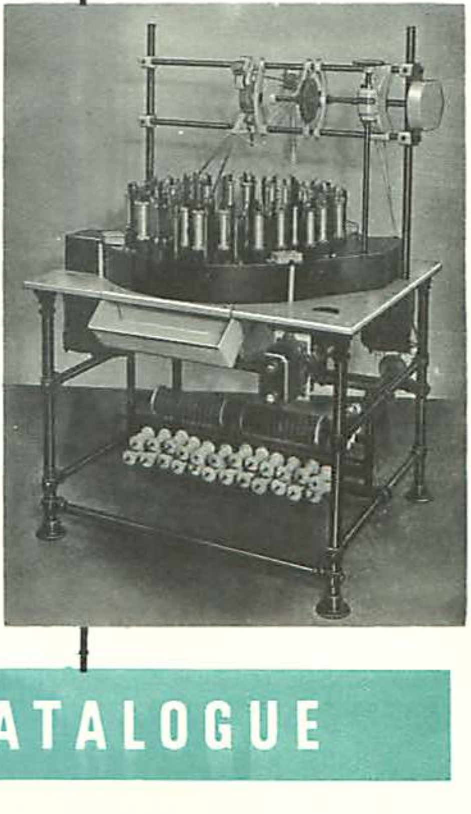


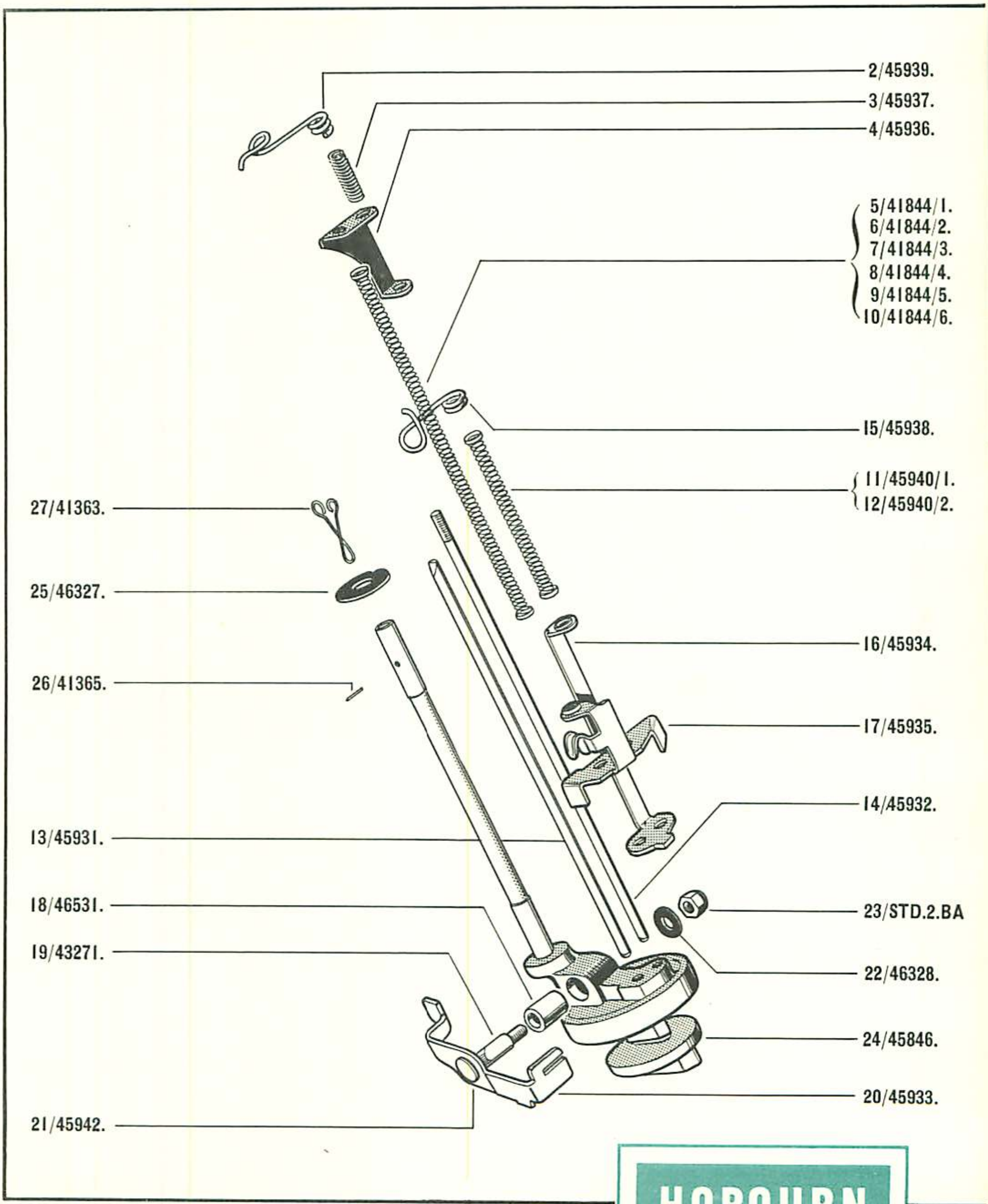
MAKERS OF TEXTILE MACHINERY

A TYPICAL EXAMPLE FROM OUR RANGE OF HIGH SPEED BRAIDERS. THE ILLUSTRATION SHOWS A FORTY-NINE CARRIER MACHINE FITTED WITH THE HOBOURN RUBBER FEED MECHANISM.



BRAIDER SPARES CATALOGUE

1/45941. CARRIER COMPLETE ①



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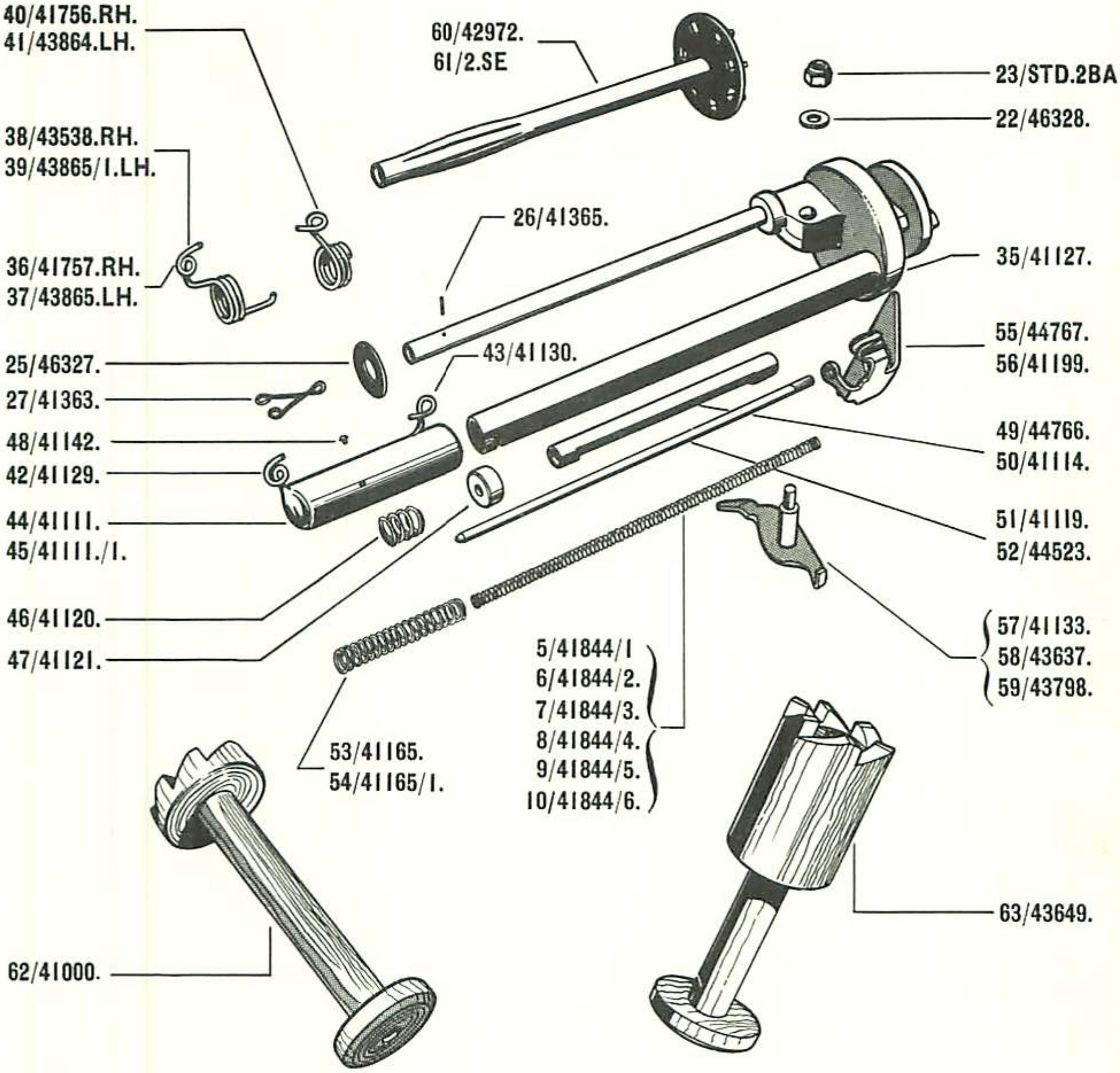
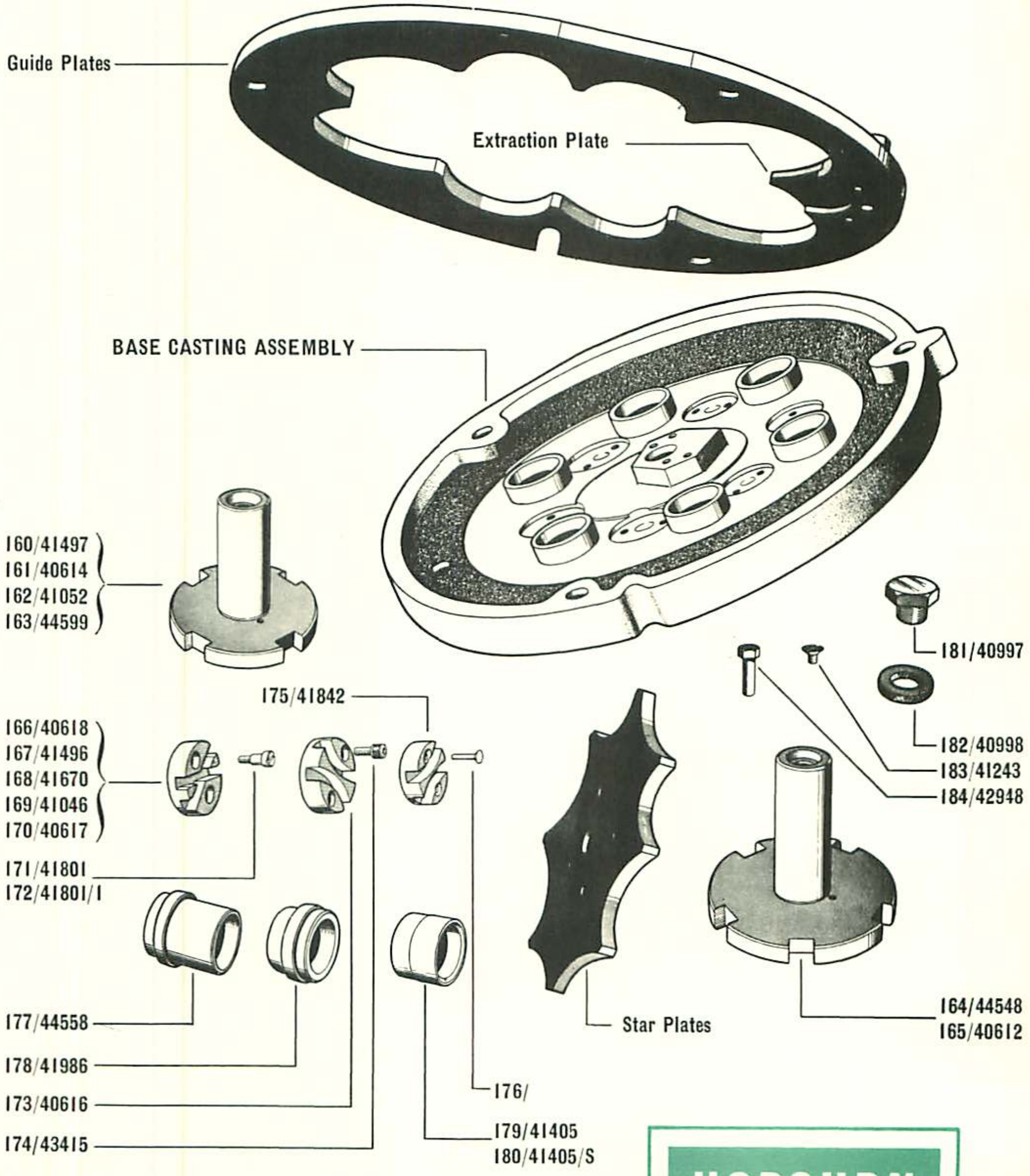


STANDARD BOBBIN CAPACITY.
EXAMPLE:-
USING 300 DENIER RAYON - 75·05 CUBIC CENTIMETRES THAT IS, 74 GRAMS WEIGHT OF YARN

BASE CASTING ASSEMBLY, GUIDE PLATES, INSERT AND DRIVING PLATES ③



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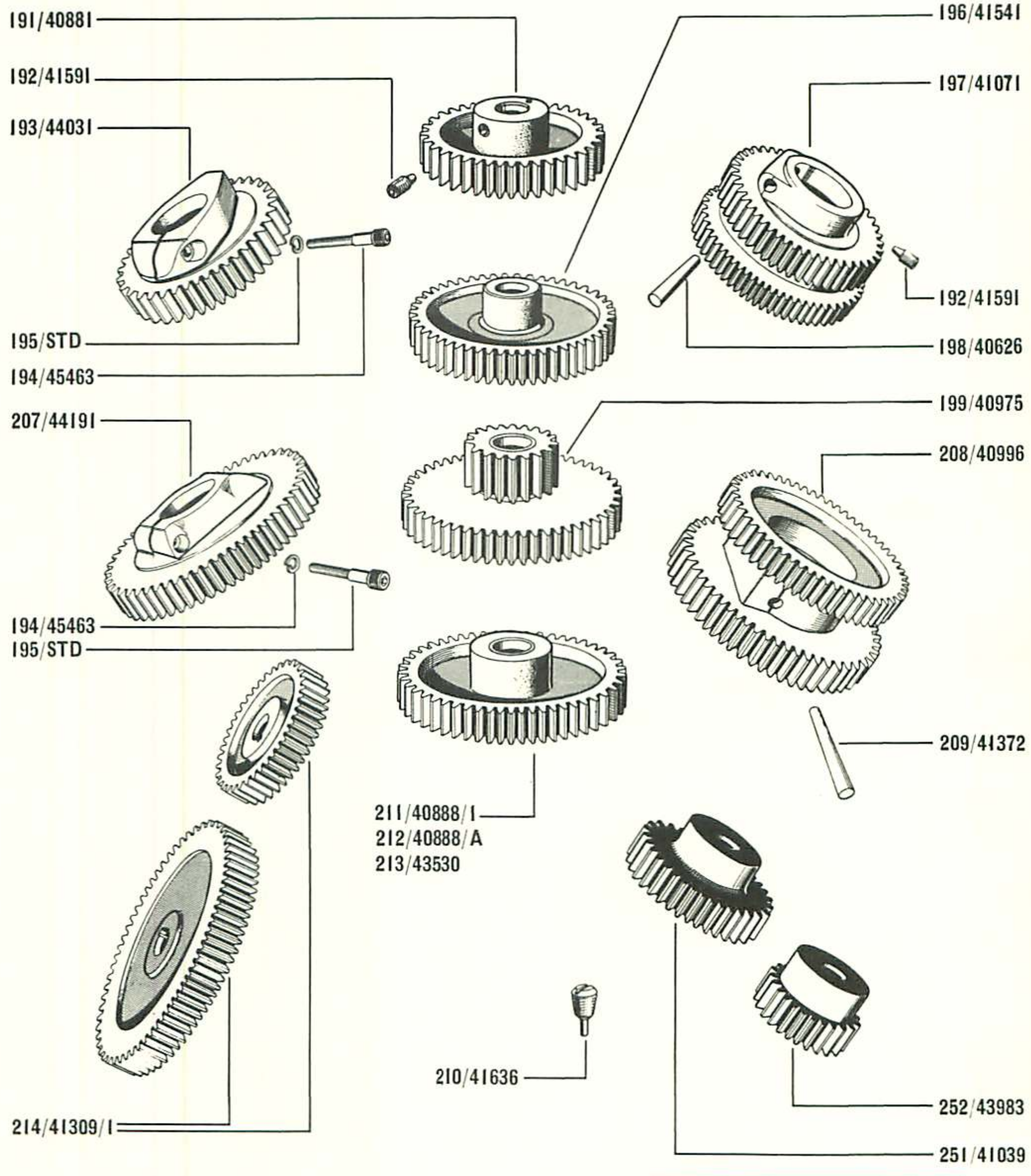
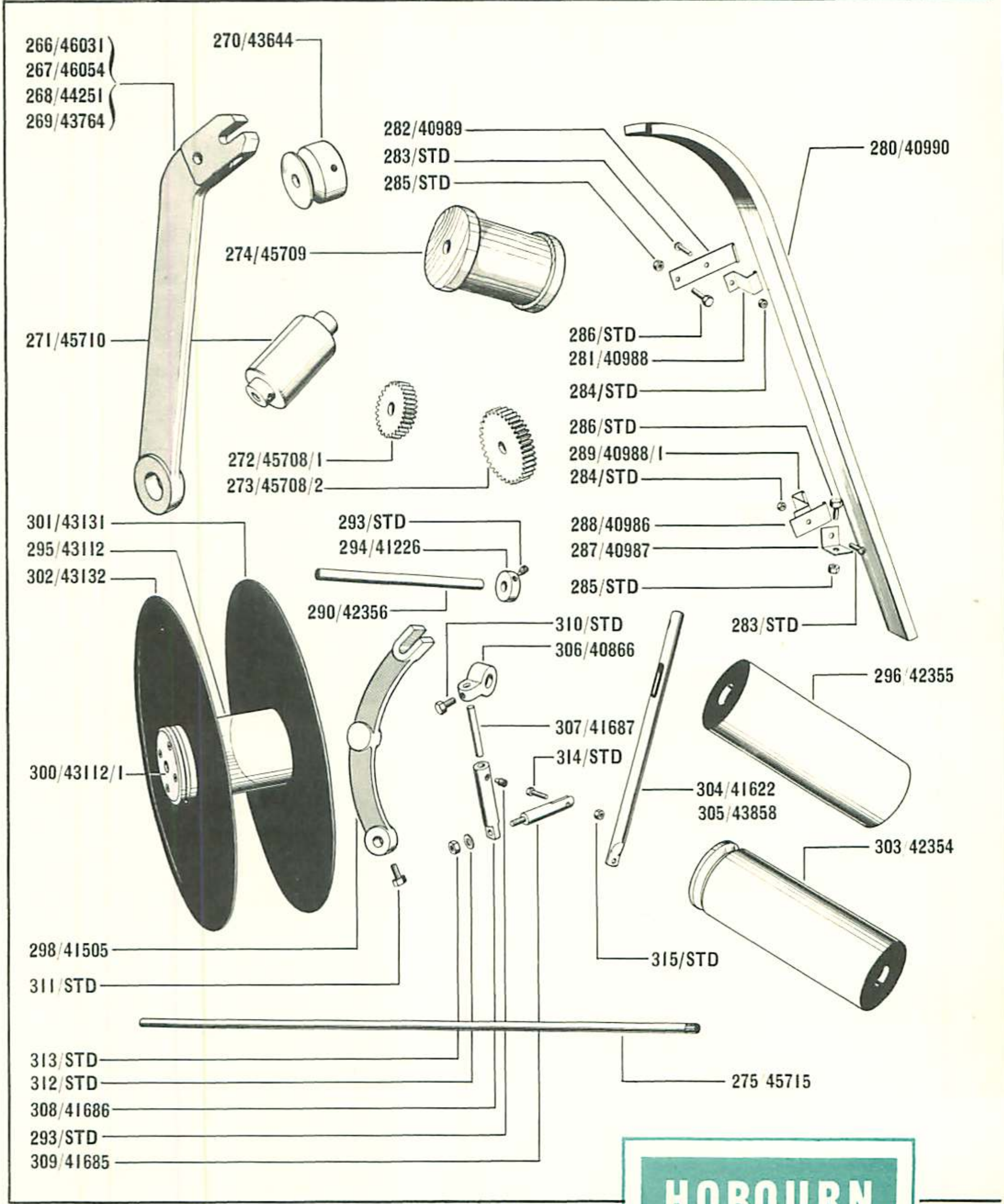
INTERMEDIATE, REDUCTION AND DRIVING GEARS ④



REAR TAKE OFF UNIT AND OVERHEAD DRUM ⑤



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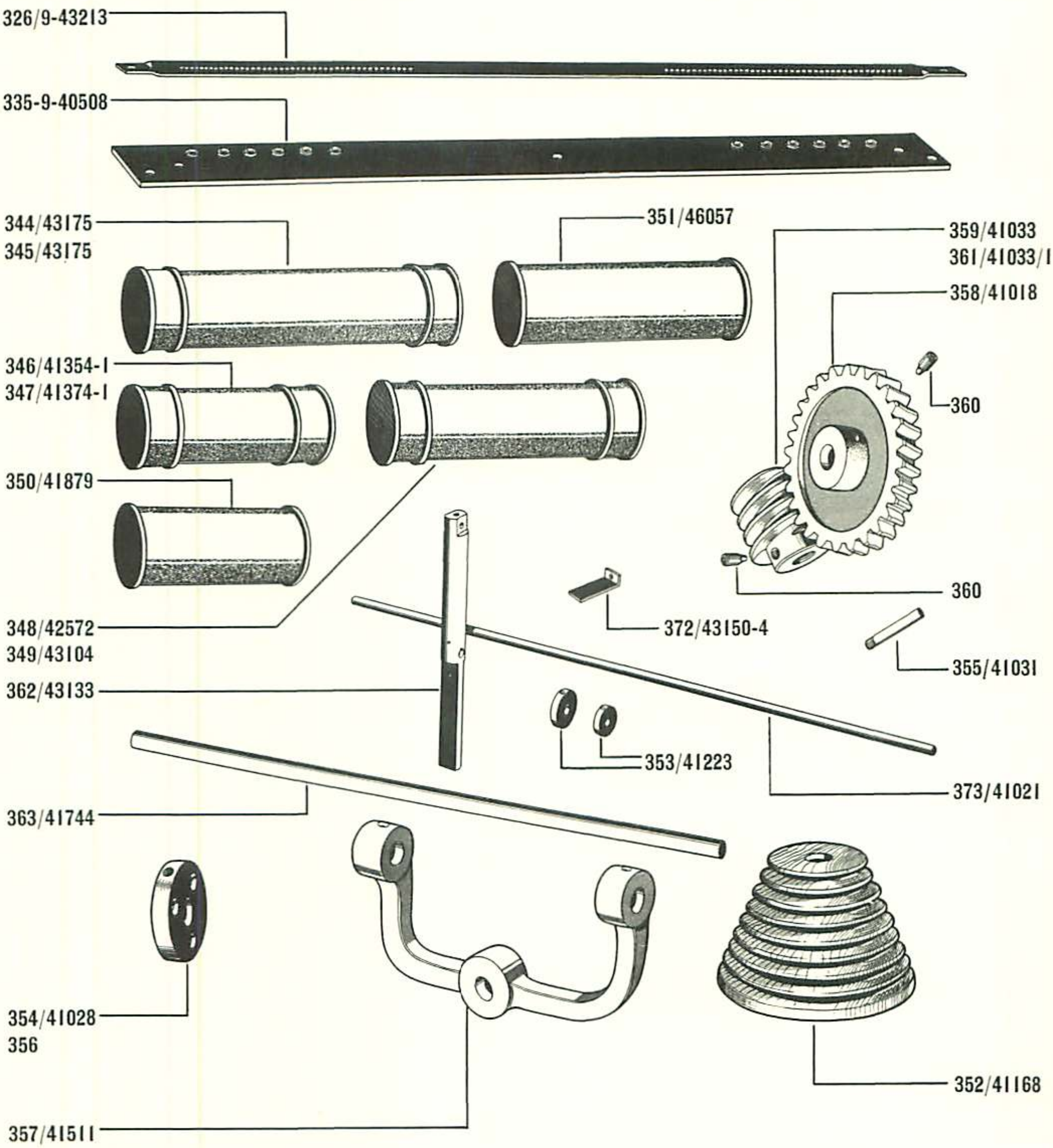
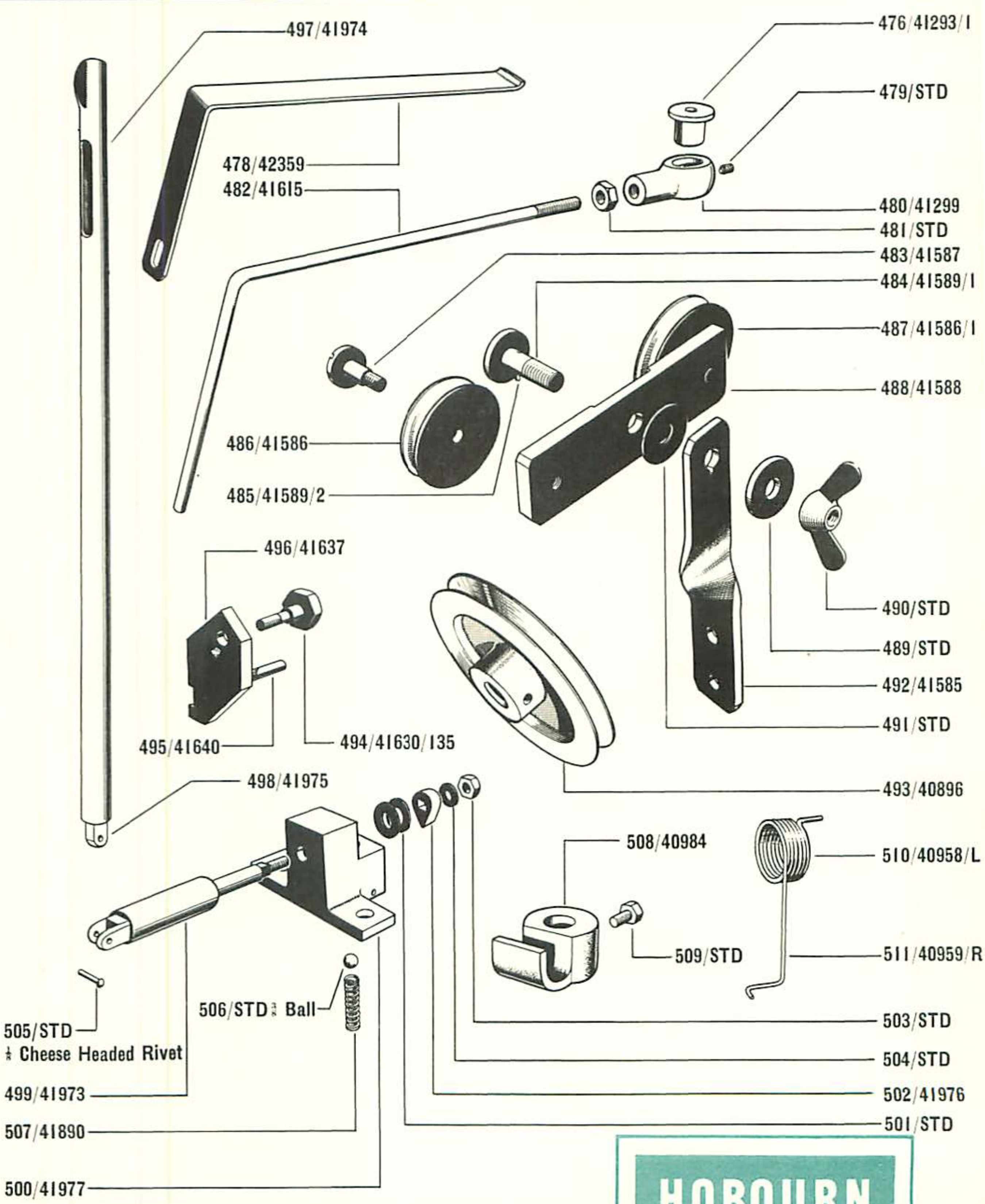
RUBBER FEED MECHANISM ⑥





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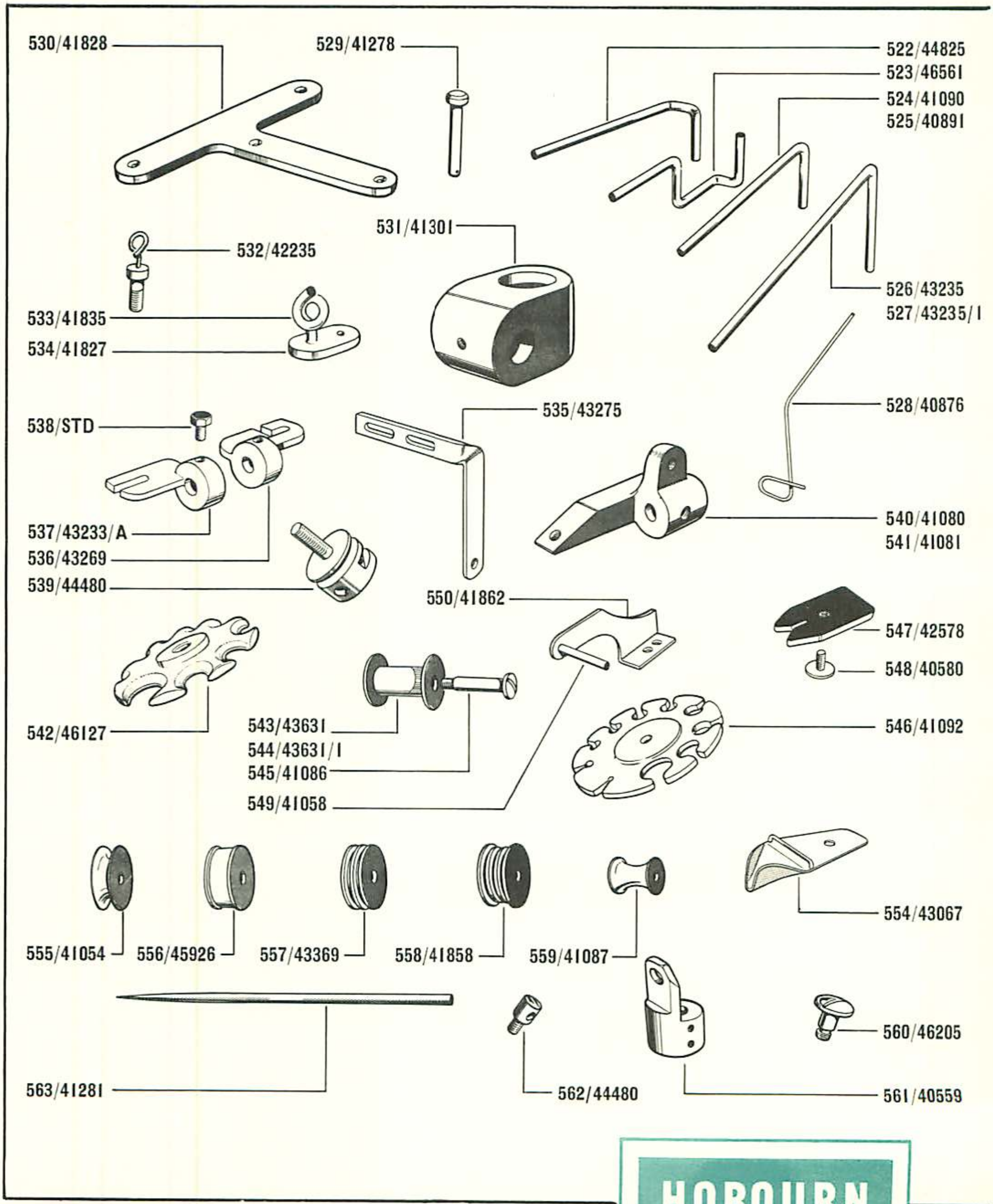
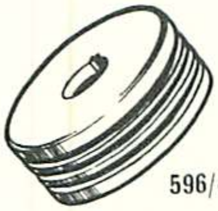
GUIDE DISCS, ROLLERS AND BRACKETS ⑨



HAUL OFF WHEELS, PRESSURE AND JOCKEY ROLLERS ⑩



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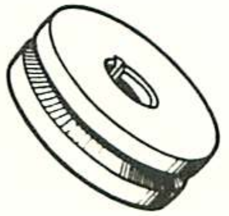

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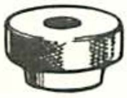
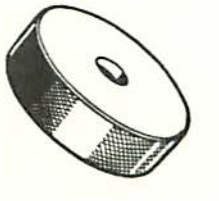
DO NOT RUN MACHINES
WITHOUT BRAID. METAL
TO METAL CONTACT WILL
DESTROY KNURLING.



684/40874



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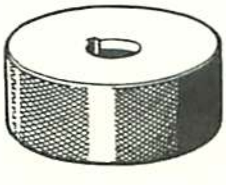

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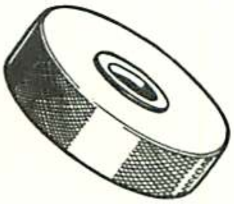

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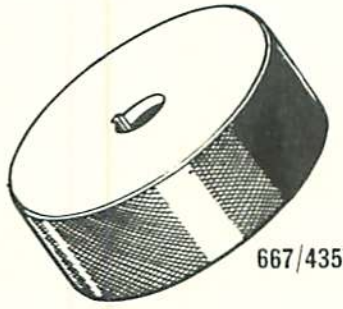

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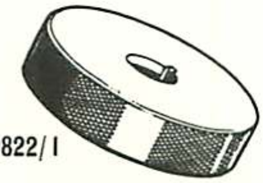

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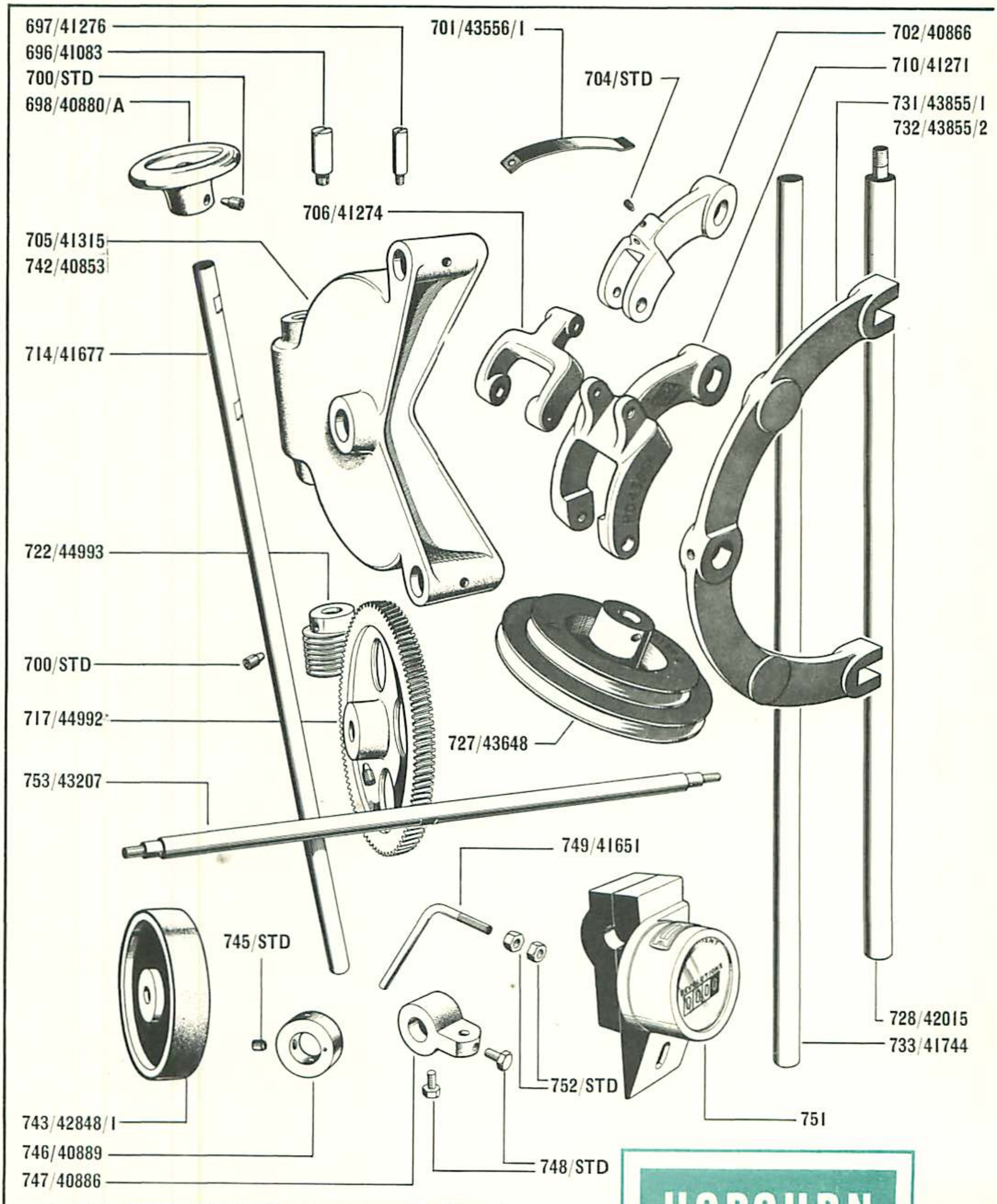
ALWAYS STATE MACHINE
SERIAL NUMBERS WHEN
ORDERING SPARE PARTS.

STANDARD UPPER HAUL OFF ⑪



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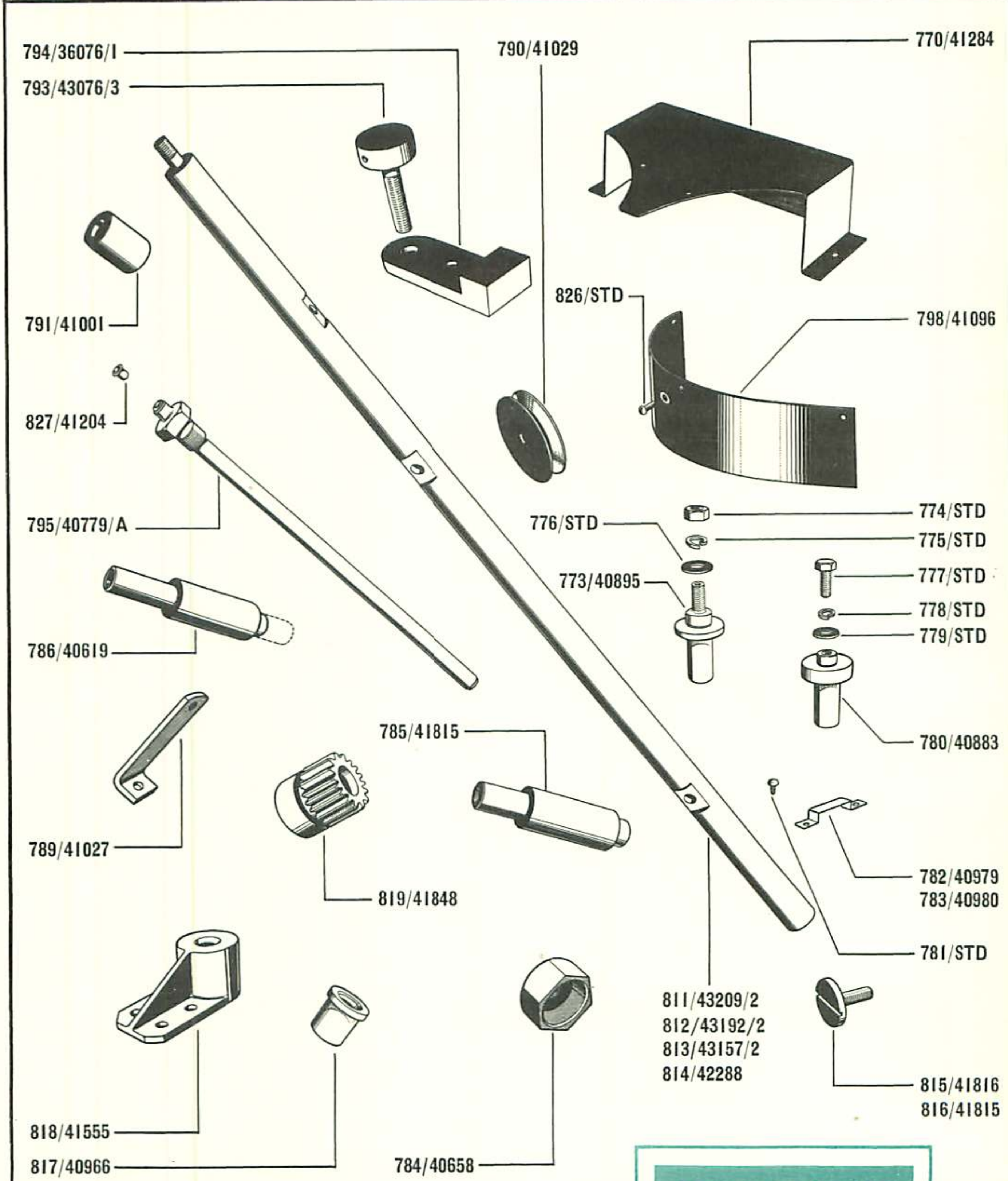
MOTOR PINIONS, FRONT COVERS & MISCELLANEOUS ITEMS ⑫



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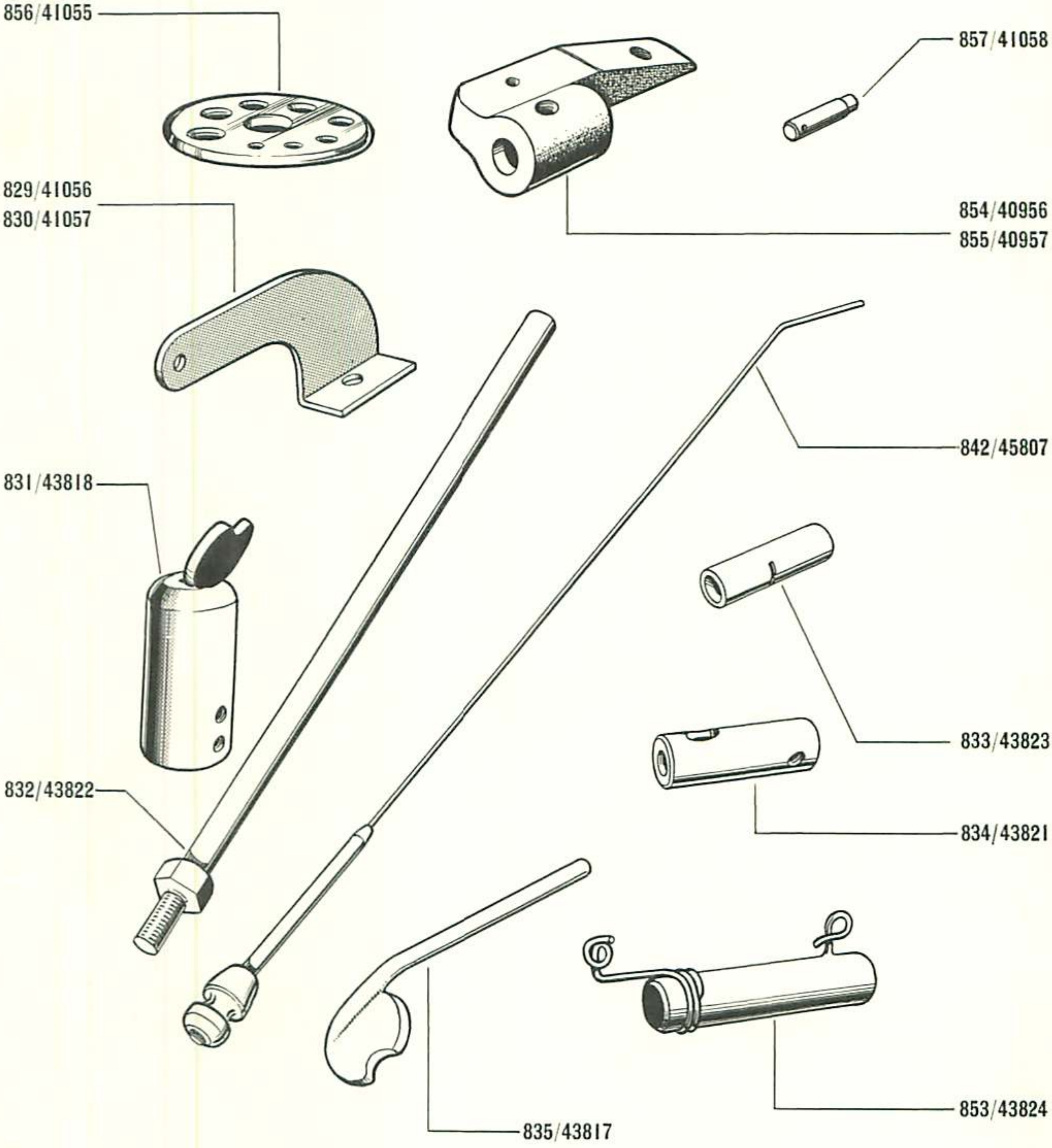
856/41055
857/41058
829/41056
830/41057
854/40956
855/40957
842/45807
831/43818
833/43823
832/43822
834/43821
853/43824
835/43817

1/45941. CARRIER COMPLETE ①

Part No	Description
1/45941.	Carrier Complete.
2/45939.	Top Pigtail (Threaded).
3/45937.	Retainer Bracket Spring.
4/45936.	Tension Spring Retainer Bracket.
5/41844/1.	Inner Spring (Red).
6/41844/2	Inner Spring (Blue).
7/41844/3.	Inner Spring (Green).
8/41844/4.	Inner Spring (Brown).
9/41844/5.	Inner Spring (Black).
10/41844/6.	Inner Spring (White).
11/45940/1.	Trip Lever Spring (Red).
12/45940/2.	Trip Lever Spring (Blue).
13/45931.	Inner Spring Rod.
14/45932.	Trip Lever Spring Rod.
15/45938.	Bottom Pigtail (Plain).
16/45934	Trip Lever Control Bar.
17/45935.	Latch.
18/46531.	Trip Lever Bush.
19/43271.	Trip Lever Pivot Pin.
20/45933.	Trip Lever (Blank).
21/45942.	Trip Lever Assembly.
22/46328.	Trip Lever Washer.
23/STD.2.BA.	Trip Lever Lock Nut.
24/45846.	Carrier Base, complete with Bobbin Spindle.
25/46327.	Bottom Retaining Washer.
26/41365.	Bobbin Spring Retaining Pin.
27/41363.	Bobbin Retaining Spring.
28/	
29/	
30/	
31/	
32/	

STEEL CARRIERS ②

Part No	Description
32/41126.	Steel Carrier complete.
33/41126.	Standard Steel Carrier complete.
34/41532.	Cable Braider type Carrier complete.
35/41127.	Carrier Base assembly with Tube and Bobbin spindle. Specify Base diameter.
23/STD. 2BA.	Nut.
22/46328.	Washer.
36/41757	Top Thread Guide Cable Carrier, Right hand.
37/43865. LH.	Top Thread Guide Cable Carrier, Left hand.
38/43538. RH.	Top Thread Guide Cable Carrier, long Neck. Right hand.
39/43865/1. LH.	Top Thread Guide Cable Carrier, long Neck. Left hand.
40/41756. RH.	Centre Thread Guide, Cable Carrier, Right hand.
41/43864. LH.	Centre Thread Guide, Cable Carrier, Left hand.
42/41129.	Top Thread Guide standard.
43/41130.	Centre Thread Guide standard.
44/41111.	Top Cover Assembly, specify Thread Guides.
45/41111/1.	Top Cover Assembly less Thread Guides.
46/41120.	Top Cover Spring.
47/41121.	Collar.
48/41142.	Collar Retaining Stud—Copper Plated.
49/44766.	Distance Piece Cable Braider Carrier.
50/41114.	Distance Piece Standard Carrier.
51/41119.	Guide Rod Standard.
52/44523.	Guide Rod Cable Braider Carrier.
53/41165.	Trip Spring, 24 S.W.G.
54/41165/1.	Trip Spring, 28 S.W.G.
55/44767.	Latch Cable Braider Carrier.
56/41199.	Latch Standard.
57/41133.	Trip Lever Assembly, standard Carrier.
58/43637.	Trip Lever Assembly, standard Carrier for use with Steel Cop Holder.
59/43798.	Trip Lever Assembly, Cable Braider Carrier.
5/41844/1.	Inner Spring (Red).
6/41844/2.	Inner Spring (Blue).
7/41844/3.	Inner Spring (Green).
8/41844/4.	Inner Spring (Brown).
9/41844/5.	Inner Spring (Black).
10/41844/6.	Inner Spring (White).
25/46327.	Bottom Retaining Washer.
27/41363.	Bobbin Retaining Spring.
26/41365.	Bobbin Retaining Spring Pin.
60/42972.	Cop Holder, Hobourn small. Base diameter 1.7/16".
61/2. SE.	Cop Holder, Moss Speed. Base diameter 1¼".
62/41000.	Bobbin Standard, Specify Wood or Plastic.
63/43649.	Bobbin Wooden for Braiding 15 denier Yarn.
64/	
65/	
66/	
67/	
68/	
69/	

BASE CASTING ASSEMBLY, GUIDE PLATES, INSERT AND DRIVING PLATES ③

Part No	Description
70/41684.	Base Casting Assembly. 8 Carrier Twin Head Machine.
71/41687/1.R.H.	Guide Plate. 8 Carrier Twin Head Machine.
72/41687/2.L.H.	Guide Plate. 8 Carrier Twin Head Machine.
73/41687/S.	Star Plate. 8 Carrier Twin Head Machine.
74/41998.	Extraction Plate. 8 Carrier Twin Head Machine.
70/41684.	Base Casting Assembly. 8 Carrier Cable Twin Head Side Drive Machine.
71/41687/1.R.H.	Guide Plate. 8 Carrier Cable Twin Head Side Drive Machine.
72/41687/2.L.H.	Guide Plate. 8 Carrier Cable Twin Head Side Drive Machine.
73/41687/S.	Star Plate. 8 Carrier Cable Twin Head Side Drive Machine.
74/41998.	Extraction Plate. 8 Carrier Twin Head Side Drive.
75/43018.	Base Casting Assembly. 9 Carrier Four Head Machine.
76/43025/1.R.H.	Guide Plate. 9 Carrier Four Head Machine.
77/43025/2.L.H.	Guide Plate. 9 Carrier Four Head Machine.
78/43025/S.	Star Plate. 9 Carrier Four Head Machine.
79/44092.	Extraction Plate. 9 Carrier Four Head Machine.
80/41531.	Base Casting Assembly. 12 Carrier Twin Head Side Drive.
81/41530/1.R.H.	Guide Plate. 12 Carrier Twin Head Side Drive Machine.
82/41530/2.L.H.	Guide Plate. 12 Carrier Twin Head Side Drive Machine.
83/41530/S.	Star Plates. 12 Carrier Twin Head Side Drive Machine.
84/41456.	Extraction Plate. 12 Carrier Twin Head Side Drive Machine.
80/41531/1.	Base Casting Assembly. 12 Carrier One Head Machine.
81/41530/1.	Guide Plate. 12 Carrier One Head Machine.
83/41530/S.	Star Plate. 12 Carrier One Head Machine.
84/41456.	Extraction Plate. 12 Carrier One Head Machine.
85/40602/1.L.H.	Base Casting Assembly. 13 Carrier Twin Head Machine.
86/40602/2.R.H.	Base Casting Assembly. 13 Carrier Twin Head Machine.
87/40609/1.L.H.	Guide Plate. 13 Carrier Twin Head Machine.
88/40609/2.R.H.	Guide Plate. 13 Carrier Twin Head Machine.
89/40609/S.	Star Plate. 13 Carrier Twin Head Machine.
90/41008.	Extraction Plate. 13 Carrier Twin Head Machine.
91/41577.	Base Casting Assembly. 16 one Head Small Carrier Machine.

92/41578.	Guide Plate. 16 Ane Head Small Carrier Machine.
93/41578/S.	Star Plate. 16 One Head Small Carrier Machine
94/41789.	Extraction Plate. 16 One Head Small Carrier Machine.
95/41546/1.	Base Casting Assembly. 16 One Head Large Carrier Machine.
96/41545.	Guide Plate. 16 One Head Large Carrier Machine.
97/41545/S.	Star Plates. 16 One Head Large Carrier Machine.
98/41648.	Extraction Plate 16 One Head Large Carrier Machine.
91/41577.	Base Casting Assembly. 16 Carrier Twin Head Machine.
99/41578/1.L.H.	Guide Plate: 16 Carrier Twin Head Machine.
100/41578/2.R.H.	Guide Plate. 16 Carrier Twin Head Machine.
93/41578/S.	Star Plates. 16 Carrier Twin Head Machine.
94/41789.	Extraction Plate. 16 Carrier Twin Head Machine.
91/41577.	Base Casting Assembly. 16 Carrier Fishing Line Machine.
99/41578/1.	Guide Plate. 16 Carrier Fishing Line Machine.
93/41578/S.	Star Plates. 16 Carrier Fishing Line Machine.
94/41789.	Extraction Plate. 16 Carrier Fishing Line Machine.
101/46063.	Base Casting Assembly. 16 Carrier Double Deck Machine.
102/46062.	Guide Plate. 16 Carrier Double Deck Machine.
103/46062/S.	Star Plates. 16 Carrier Double Deck Machine.
104/41648/1.	Extraction Plate. 16 Carrier Double Deck Machine.
105/41004.	Base Casting Assembly. 17 Carrier Twin Head Machine.
106/41005/1.L.H.	Guide Plate. 17 Carrier Twin Head Machine.
107/41005/2.R.H.	Guide Plate. 17 Carrier Twin Head Machine.
108/41005/S.	Star Plates. 17 Carrier Twin Head Machine.
90/41008.	Extraction Plate. 17 Carrier Twin Head Machine.
109/41770.	Base Casting Assembly. 20 Carrier Twin Head Machine.
110/41771/1.L.H.	Guide Plate. 20 Carrier Twin Head Machine.
111/41771/2.R.H.	Guide Plate. 20 Carrier Twin Head Machine.
112/41771/S.	Star Plates. 20 Carrier Twin Head Machine.
94/41789.	Extraction Plate. 20 Carrier Twin Head Machine.
113/41074.	Base Casting Assembly. 21 Carrier Twin Head Machine.
114/41100/1.L.H.	Guide Plate. 21 Carrier Twin Head Machine.
115/41100/2.R.H.	Guide Plate. 21 Carrier Twin Head Machine.
116/41100/S.	Star Plates. 21 Carrier Twin Head Machine.
90/41008.	Extraction Plate. 21 Carrier Twin Head Machine.
117/44739.	Base Casting Assembly. 24 Carrier One Head Machine.
118/44738.	Guide Plate. 24 Carrier One Head Machine.
119/44738/S.	Star Plates. 24 Carrier One Head Machine.
120/44743.	Extraction Plate. 24 Carrier One Head Machine.
121/41470/1.	Base Casting Assembly. 24 One Head Large Carrier Machine.
122/41471.	Guide Plate. 24 One Head Large Carrier Machine.
123/41471/S.	Star Plates. 24 One Head Large Carrier Machine.
98/41648.	Extraction Plate. 24 One Head Large Carrier Machine.
124/41453.	Base Casting Assembly. 25 Carrier One Head Machine.
125/41454.	Guide Plate. 25 Carrier One Head Machine.
126/41454/S.	Star Plates. 25 Carrier One Head Machine.
90/41008.	Extraction Plate. 25 Carrier One Head Machine.
127/43202.	Base Casting Assembly. 29 Carrier One Head Machine.
128/43203.	Guide Plate. 29 Carrier One Head Machine.
129/43203/S.	Star Plates. 29 Carrier One Head Machine.
90/41008.	Extraction Plate. 29 Carrier One Head Machine.
130/41956.	Base Casting Assembly. 32 Carrier One Head Machine.
131/41938.	Guide Plates. 32 Carrier One Head Machine.
132/41938/S.	Star Plates. 32 Carrier One Head Machine.
133/41456.	Extraction Plate. 32 Carrier One Head Machine.
134/43139.	Base Casting Assembly. 33 Carrier One Head Machine.
135/43137.	Guide Plate. 33 Carrier One Head Machine.
136/43137/S.	Star Plates. 33 Carrier One Head Machine.
137/41988.	Extraction Plate. 33 Carrier One Head Machine.
138/43144.	Base Casting Assembly. 37 Carrier One Head Machine.
139/43145.	Guide Plate. 37 Carrier One Head Machine.
140/43145/S.	Star Plates. 37 Carrier One Head Machine.
90/41008.	Extraction Plate. 37 Carrier One Head Machine.
141/42925.	Base Casting Assembly. 40 Carrier One Head Machine.
142/42909.	Guide Plate. 40 Carrier One Head Machine.
143/42909/S.	Star Plates. 40 Carrier One Head Machine.
94/41789.	Extraction Plate. 40 Carrier One Head Machine.
144/44518.	Base Casting Assembly. 49 Carrier One Head Machine.
145/44524/1.	(Small Segment) Guide Plate. 49 Carrier One Head Machine.
146/44524/2.	(Large Segment) Guide Plate. 49 Carrier One Head Machine.
147/44524/1/S.	Star Plate. 49 Carrier One Head Machine.
148/44524/2/S.	Star Plate. 49 Carrier One Head Machine.
149/44596.	Extraction Plate. 49 Carrier One Head Machine
150/45599.	Base Casting Assembly. 52 Carrier One Head Machine.
151/45609.	Guide Plate (Small Segment). 52 Carrier One Head Machine.
152/45608.	Guide Plate (Large Segment). 52 Carrier One Head Machine.
153/45609/S.	Star Plate. 52 Carrier One Head Machine.
154/45608/S.	Star Plate. 52 Carrier One Head Machine.
155/45670.	Extraction Plate. 52 Carrier One Head Machine.
156/41843.	Base Casting Assembly. Prices Candlewick Machine.
157/41812/1.R.H.	Guide Plate. Candlewick Machine.
158/41812/2.L.H.	Guide Plate. Candlewick Machine.
159/41812/S.	Star Plates. Candlewick Machine.
84/41456.	Extraction Plate. Prices Candlewick Machine.
160/41497.	Driving Plates Four Slot. 2.86" O/A 2.97" A/Slots.
161/40614.	Driving Plates Four Slot. 2.86" O/A 2.36" A/Slots.
162/41052.	Driving Plates Four Slot. 2.86" O/A 3.118" A/Slots.
163/44599.	Driving Plates Four Slot. 3.9/16" O/A 2.36" A/Slots. For 49 Carrier Machine and above.
164/44548.	Driving Plates Five Slot 3.1/16" O/A—For 49 Carrier Machine and above.
165/40612.	Driving Plates Five Slot. 2.86" O/A—For Standard Machines.
166/40618.	Insert for use between 4 Slot Horn Gears Round and Flat Braiders.
167/41496.	Insert for Cable Braider.
168/41670.	Insert for 8 Carrier Machine.
169/41046.	Insert for use only on Flat to Round Conversions.
170/40617.	Insert for use between 5 and 4 Slot Horn Gears.
171/41801.	Standard Insert Screw.
172/41801/1.	.010" Oversize Dia Insert Screw.
173/40616.	Insert—Front Return Flat Braiders.
174/43415.	Insert Screw for Fixed Insert.
175/41842.	Insert Candlewick Machine.
176/STD.	Rivet 1/16"Dia. for Insert.
177/44558.	Bearing Bush for Driving Plate. 49 Carrier Machine and above.
178/41986.	Bearing Bush for Driving Plate. Cable Braiding Machines only.
179/41405.	Bearing Bush for Driving Plate Standard Machines
180/41405/S.	O/Size Bearing Bush for Driving Plate Standard Machine.
181/40997.	Oil Drain Plug.
182/40998.	Washer for Drain Plug.
183/41243.	Extraction Plate Screw.
184/42948.	Extraction Plate Pin.
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INTERMEDIATE, REDUCTION AND DRIVING GEARS ④

Part No	Description
191/40881.	Worm Gear Shaft 36T.
192/41591.	Dog End Screw.
193/44031.	Driving Gear (Split) 36T.
194/45463.	Cap Screw.
195/STD.	¼" Dia. Spring Washer.
196/41541.	Intermediate Gear 41T. 12 Carrier Machine.
197/41071.	Intermediate Double Gear.
198/40626.	Cotter Pin for Double Gear.
199/40975.	Reduction Gear 18-42 Teeth.
200/41064.	Reduction Gear 18-40 Teeth.
201/42532.	Reduction Gear 18-39 Teeth.
202/42242.	Reduction Gear 22-44 Teeth.
203/43934.	Reduction Gear 17-40 Teeth.
204/41849.	Reduction Gear 18-44 Teeth.
205/43333.	Reduction Gear 18-43 Teeth.
206/46080.	Reduction Gear 22-45 Teeth.
207/44191.	Driving Gear 45 Teeth.
208/40996.	Double Gear.
209/41372.	Cotter Pin.
210/41636.	Shear Pin.
211/40888/1.	Intermediate Gear ⅝" Dia. Bore 45 Teeth.
212/40888/A.	Intermediate Gear ¾" Dia. Bore 45 Teeth.
213/43530.	Intermediate Gear 36 Teeth.
214/41309/1.	Driving Gears Haul off Unit 21 Teeth.
215/41309/2.	Driving Gears Haul off Unit 27 Teeth.
216/41309/3.	Driving Gears Haul off Unit 33 Teeth.
217/41309/4.	Driving Gears Haul off Unit 39 Teeth.
218/41309/5.	Driving Gears Haul off Unit 45 Teeth.
219/41309/6.	Driving Gears Haul off Unit 51 Teeth.
220/41309/7.	Driving Gears Haul off Unit 24 Teeth.
221/41309/8.	Driving Gears Haul off Unit 30 Teeth.
222/41309/9.	Driving Gears Haul off Unit 36 Teeth.
223/41309/10	Driving Gears Haul off Unit 42 Teeth.
224/41309/11	Driving Gears Haul off Unit 48 Teeth.
225/41309/12.	Driving Gears Haul off Unit 15 Teeth.
226/41309/13.	Driving Gears Haul off Unit 18 Teeth.
227/41309/14.	Driving Gears Haul off Unit 54 Teeth.
228/41309/15.	Driving Gears Haul off Unit 12 Teeth.
229/41309/16.	Driving Gears Haul off Unit 26 Teeth.
230/41309/17.	Driving Gears Haul off Unit 28 Teeth.
231/41309/18.	Driving Gears Haul off Unit 32 Teeth.
232/41309/19.	Driving Gears Haul off Unit 34 Teeth.
233/41309/20.	Driving Gears Haul off Unit 58 Teeth.
234/41309/21.	Driving Gears Haul off Unit 56 Teeth.
235/41309/22.	Driving Gears Haul off Unit 52 Teeth.
236/41309/23.	Driving Gears Haul off Unit 50 Teeth.
237/41309/24.	Driving Gears Haul off Unit 41 Teeth.
238/41309/25.	Driving Gears Haul off Unit 43 Teeth.
239/41309/26.	Driving Gears Haul off Unit 22 Teeth.
240/41309/27.	Driving Gears Haul off Unit 23 Teeth.
241/41309/28.	Driving Gears Haul off Unit 29 Teeth.
242/41309/29.	Driving Gears Haul off Unit 55 Teeth.
243/41309/30.	Driving Gears Haul off Unit 61 Teeth.
244/41309/31.	Driving Gears Haul off Unit 62 Teeth.
245/41309/32.	Driving Gears Haul off Unit 38 Teeth.
246/41309/33.	Driving Gears Haul off Unit 46 Teeth.
247/41309/34.	Driving Gears Haul off Unit 40 Teeth.
248/41309/35.	Driving Gears Haul off Unit 44 Teeth.
249/41309/36.	Driving Gears Haul off Unit 60 Teeth.
250/41309/37.	Driving Gears Haul off Unit 57 Teeth.
251/41039.	Intermediate Driving Gear.
252/43983.	Intermediate Gear.
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REAR TAKE OFF UNIT AND OVERHEAD DRUM ⑤

Part No	Description
266/46031.	Rear Take off Arm Cable Braider.
267/46054.	Rear Take off Arm 65 Carrier Braider.
268/44251.	Rear Take off Arm 49 and 52 Carrier Braider.
269/43764.	Rear Take off Arm all machines below 49 Carrier.
270/43644.	Steel Pulley for Rear Take off.
271/45710.	Steel Roller for Rear Take off.
272/45708/1.	Small 32 Teeth Gear for Rear Take off.
273/45708/2.	Large 32 Teeth Gear for Rear Take off.
274/45709.	Wooden Roller for Rear Take off.
275/45715.	Spindle for Rollers and Gears Rear Take off 16¼" O/A.
276/45715/1.	Spindle for Rollers and Gears Rear Take off 16½" O/A.
277/45715/2.	Spindle for Rollers and Gears Rear Take off 18" O/A.
278/45715/3.	Spindle for Rollers and Gears Rear Take off 20¼" O/A.
279/45715/4.	Spindle for Rollers and Gears Rear Take off 5" O/A.
280/40990.	Brass Chute—Rear Take off.
281/40988.	Angled Securing Plate for Brass Chute.
282/40989.	Straight Securing Plate for Brass Chute.
283/STD.	Screw 3/16" Whit. x ½" Round Head.
284/STD.	Nut 3/16" Whitworth.
285/STD.	Nut ¼" Whitworth.
286/STD.	Screw ¼" Whitworth x ½" Hexagon Head.
287/40987.	Angled Securing Plate for Chute—Lower.
288/40986.	Straight Securing Plate for Chute—Lower.
289/40988/1.	Angled Securing Plate for Chute—Lower.
290/42356.	Spindle for overhead Drum ½" dia. x 18¼" O/A.
291/42357.	Spindle for overhead Drum ⅝" dia. x 18¼" O/A.
292/41227.	Spindle for overhead Drum ⅜" dia. x 9⅜" O/A.
293/STD.	Unbrako Screw ¼" B.S.F.
294/41226.	Collar for Overhead Drum Spindle.
295/43112.	Wooden Roller centre for Overhead Drum
296/42355.	Take off Roller for Candlewick Machine.
297/42236.	Take off Roller for Candlewick Machine.
298/41505.	Support Arm for Overhead Drum.
299/41595.	Support Arm for Overhead Drum.
300/43112/1.	End Plate for Wooden Roller.
301/43131.	Flange for Drum.
302/43132.	Flange for Drum.
303/42354.	Wooden Roller for Take off–Candlewick Machine
304/41622.	Stylus Arm—Standard—11⅝" O/A Length.
305/43858.	Stylus Arm—Short—6¼" O/A Length.
306/40866.	Stylus Arm Support Bracket.
307/41687.	Pin for Coupling.
308/41686.	Coupling for Hinge Arm.
309/41685.	Support Arm.
310/STD.	Screw Hexagon Head 5/16" B.S.F. x ⅜"
311/STD.	Screw Hexagon Head 5/16" B.S.F. x 7/16"
312/STD.	Washer 5/16"
313/STD.	Nut 5/16" B.S.F.
314/STD.	Screw Slotted Head, 3/16" B.S.F. x ¼"
315/STD.	Nut 3/16" B.S.F.
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RUBBER FEED MECHANISM ⑥

Part No	Description
326/9/9/43213.	Rubber Guide Bar for Individual Rubber Thread.
327/13/41034.	
328/17/41034/1.	When required for Round Braiders quote Machine Size.
329/21/41203.	
330/25/42307.	
331/29/43266.	
332/33/43174.	
333/37/43176.	
334/49/44256.	
335/9/40508.	Rubber Guide Eye Strips.
336/13/40508.	
337/17/40508.	When required for Round Braiders quote Machine Size.
338/21/40508.	
339/25/40508.	
340/29/40508.	
341/33/40508.	
342/37/40508.	
343/49/40508.	
344/43175.	Wooden Rubber Feed Drum 17¾" O/A
345/43175.	Wooden Rubber Feed Drum 15¾" O/A
346/41354/1.	Wooden Rubber Feed Drum 7½" O/A
347/41374/1.	Wooden Rubber Feed Drum 9½" O/A
348/42572.	Wooden Rubber Feed Drum 12½" O/A
349/43104.	Wooden Rubber Feed Drum 11½" O/A
350/41879.	Wooden Rubber Feed Drum Plain 11½" O/A
351/46057.	Wooden Rubber Feed Drum Plain 34" O/A
352/41168.	Wooden Cone Pulley.
353/41223.	Shaft Collars :- State O.D. and Bore.
354/41028.	Feed Drum Locking Collar.
355/41031.	Feed Drum Locking Bolt.
356/	Feed Drum Locking Collar Wood Screws.
357/41511.	Worm Wheel Shaft Support Bracket.
358/41018.	Worm Wheel.
359/41033.	Worm 9/16 Bore.
360/	Locking Screws for Items 358-359.
361/41033/1.	Worm 5/8 Bore.
362/43133.	Rubber Feed Mechanism Vertical Support Shaft. State Length.
363/41744.	Cone Pulley Drive Shaft ¾ Dia. 20½" O/A.
364/40954.	Cone Pulley Drive Shaft ¾ Dia. 22" O/A.
365/41466.	Cone Pulley Drive Shaft ¾ Dia. 23" O/A.
366/41093.	Cone Pulley Drive Shaft ¾ Dia. 24¾" O/A.
367/41989.	Cone Pulley Drive Shaft ¾ Dia. 25" O/A.
368/44119.	Cone Pulley Drive Shaft ¾ Dia. 27" O/A.
369/41010.	Cone Pulley Drive Shaft ⅜ Dia. 27½" O/A.
370/41743.	Cone Pulley Drive Shaft ¾ Dia. 15⅞" O/A.
371/40953.	Cone Pulley Drive Shaft ¾ Dia. 22" O/A.
372/43150/4.	Angle Bracket for Rubber Guide Bar.
373/41021.	Transverse Rubber Feed Mechanism Support Shaft 22½"
374/42306.	Transverse Rubber Feed Mechanism Support Shaft 23"
375/16.	Transverse Rubber Feed Mechanism Support Shaft 24"
376/29/32.	Transverse Rubber Feed Mechanism Support Shaft 24½"
377/24.	Transverse Rubber Feed Mechanism Support Shaft 26"
378/41021/1.	Transverse Rubber Feed Mechanism Support Shaft 26½"
379/43178/4.	Transverse Rubber Feed Mechanism Support Shaft 27 3/16"
380/43177/4.	Transverse Rubber Feed Mechanism Support Shaft 28¾"
381/41021/2.	Transverse Rubber Feed Mechanism Support Shaft 31"
382/44259.	Transverse Rubber Feed Mechanism Support Shaft 34¼"
383/46055.	Transverse Rubber Feed Mechanism Support Shaft 43½"
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TAPER FISHING LINE MACHINE DETAILS COVERS & SWITCHES ⑦

Part No	Description
396/42889.	Hinge Spindle.
397/42537.	Indicator Plate.
398/42534.	Indicator Assembly Unit.
399/STD.	Split Pin 3/32" x ¾" Long.
400/42538.	Spindle.
401/STD.	Unbrako Screw.
402/42543/1.	Handwheel.
403/42543/2.	Handle.
404/STD.	5/16" Washer.
405/STD.	5/16" Whit. Nut.
406/42541.	End Plate.
407/40960/1.	Oilite Bush
408/42540.	Belt Guide
409/42536/1.	Roller.
410/42536/2.	Bush.
411/41028/1.	Collar.
412/42356.	Collar.
413/42542/1.	Cone Pulley.
414/42542.	Cone Pulley.
415/	Endless Belt.
416/42544.	Lead Screw.
417/42539.	Side Plate.
418/	Spring.
419/42890.	Collar.
420/40873.	Collar.
421/CT4.	Oilite Bush.
422/42548/1.	Gear Box.
423/42548/2.	Gear Box Cover.
424/42548/3.	Gear Box Stud.
425/STD.	Screw 2 B.A. x ½" Long.
426/STD.	3/16" Washer.
427/STD.	¼ B.S.F. SIMMOND NUT.
428/41635.	Gear Guard.
429/42967.	Chain Sprochet 19 Tooth C/Bored.
430/42967/1.	Chain Sprochet 19 Tooth Plain.
431/42968.	Chain Sprochet 10 Tooth 5/16" Bore tapped ¼ B.S.F.
432/111044.	Renolds Chain, State type of Line to be produced, and Length of Chain.
433/43714.	Double Pin.
434/43897.	Stop Pin.
435/43281.	Bobbin Rack Bracket. Left Hand.
436/43281/1.	Bobbin Rack Bracket. Right Hand.
437/42564.	Chain Drive Cut-out Switch.
438/42554.	Trip Switch Assembly.
439/43744.	Sprocket Support Bracket 5⅝" O/A Length.
440/43799.	Sprocket Support Bracket 11¼" O/A Length.
441/40735.	Yarn Breakage Trip Switch.
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CABLE BRAIDER HAUL OFF ⑧

Part No	Description
476/41293/1.	Braid Guide ¼" 1/D—Cable Braider.
477/41293/2.	Braid Guide 5/16" 1/D—Cable Braider.
478/42359.	Bracket.
479/STD.	Unbrako Screw.
480/41299.	Banjo for Braid Guide.
481/STD.	¼" B.S.F. Nut.
482/41615.	Arm for Banjo.
483/41587.	Spindle for Jockey Pulley.
484/41589/1.	Spindle for Wing Nut.
485/41589/2.	Pin for Spindle.
486/41586.	Jockey Pulley.
487/41586/1.	Jockey Pulley.
488/41588.	Arm for Pulleys.
489/STD.	½" Bore dia. Washer x ⅛" thick.
490/STD.	½" Wing Nut.
491/STD.	Washer ½" dia. Bore.
492/41585.	Angle Bracket.
493/40896.	Driving Pulley.
494/41630/135.	Screw for Catch Plate.
495/41640.	Catch Plate Pin.
496/41637.	Catch Plate.
497/41974.	Stylus Arm—Cable Braider.
498/41975.	Plug end for Stylus Arm.
499/41973.	Stylus Pivot Arm.
500/41977.	Block for Stylus Pivot Arm.
501/STD.	¼" Washer.
502/41976.	Cam.
503/STD.	¼" B.S.F. Nut.
504/STD.	¼" Washer.
505/STD.	⅛" Cheese Headed Rivet.
506/STD.	⅜" dia. Ball.
507/41890.	Spring.
508/40984.	Support Bracket.
509/STD.	Stud 5/16" B.S.F.
510/40958.	Roller Arm Spring Left Hand.
511/40959.	Roller Arm Spring Right Hand.
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GUIDE DISCS, ROLLERS AND BRACKETS ⑨

Part No	Description
522/44825.	Braid Guide Bracket Support Rod.
523/46561.	Braid Guide Bracket Support Rod.
524/41090.	Braid Guide Bracket Support Rod. 6" x 3".
525/40891.	Braid Guide Bracket Support Rod 4" x 2 5/16"
526/43235.	Braid Guide Bracket Support Rod. 9" x 4".
527/43235/1.	Braid Guide Bracket Support Rod. 10½" x 4".
528/40876.	Braid Guide.
529/41278.	Pin for Guide Roller.
530/41828.	Candlewick Braid Guide Plate.
531/41301.	Support Bracket.
532/42235.	Special Braid Guide—9 Carrier Machine.
533/41835.	Pigtail Guide Candlewick Machine.
534/41827.	Slipper for Pigtail Guide.
535/43275.	Braid Spacer.
536/43269.	Braid Guide Plate—9 Carrier Machine.
537/43233/A.	Assembly of Braid Guide—9 Carrier (State size of slot when ordering).
538/STD.	Bolt for Guide Plate.
539/44480.	Needle Holder 49 and 65 Carrier Machines.
540/41080.	Braid Guide Disc Bracket. Right Hand as drawn.
541/41081.	Braid Guide Disc Bracket. Left Hand.
542/46127.	Braid Guide. New Type.
543/43631.	Guide Roller—¾" O/A width.
544/43631/1.	Guide Roller—1.05" O/A width.
545/41086.	Guide Roller Pin.
546/41092.	Braid Guide Disc.
547/42578.	Fishing Line Machine Guide Plate.
548/40580.	Screw for Guide Plate.
549/41058.	Guide Roller Pin.
550/41862.	Guide Roller Bracket ½" x 7/16" Right Hand.
551/41863.	Guide Roller Bracket ½" x 7/16" Left Hand.
552/41056.	Guide Roller Bracket 11/16" x 7/16" Right Hand.
553/41057.	Guide Roller Bracket 11/16" x 7/16" Left Hand.
554/43067.	Ric-Rac Chute.
555/41054.	Braid Guide Roller—1" dia. x 7/16" wide.
556/45926.	Braid Guide Roller.
557/43369.	Braid Guide Roller 2 Grooved 1" dia.
558/41858.	Braid Guide Roller 3 Grooved 1" dia.
559/41087.	Braid Guide Roller ⅝" dia. x ¾" long.
560/46205.	Screw for Braid Guide Disc—New Type.
561/40559.	Needle Carrier.
562/44480.	Needle Holder.
563/41281.	Needle—4½" O/A Length.
564/40235.	Needle—5⅝" O/A Length.
565/43257.	Needle—7¼" O/A Length.
566/43257/2.	Needle—9¼" O/A Length.
567/43257/3.	Needle-10¼" O/A Length.
568/43257/5.	Needle-11¼" O/A Length.
569/44481.	Needle-12⅝" O/A Length.
570/44481/A.	Needle-18¾" O/A Length.
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HAUL OFF WHEELS, PRESSURE AND JOCKEY ROLLERS ⑩

Part No	Description
582/41053/1.	Haul off Wheel 2" dia. ⅝" wide.
583/41053/2.	Haul off Wheel 2¼" dia. ⅝" wide.
584/41053/3.	Haul off Wheel 2⅜" dia. ⅝" wide.
585/41053/4.	Haul off Wheel 2½" dia. ⅝" wide.
586/41053/5.	Haul off Wheel 1⅞" dia. ⅝" wide.
587/41053/6.	Haul off Wheel 3" dia. ⅝" wide.
588/41053/7.	Haul off Wheel 2 11/16" dia. ⅝" wide.
589/41053/8.	Haul off Wheel 2⅝" dia. ⅝" wide.
590/41053/9.	Haul off Wheel 4" dia. ⅝" wide.
591/41053/10.	Haul off Wheel 4½" dia. ⅝" wide.
592/41053/11.	Haul off Wheel 1¾" dia. ⅝" wide.
593/41053/12.	Haul off Wheel 3½" dia. ⅝" wide.
594/41053/13.	Haul off Wheel 3 7/16" dia. ⅝" wide.
595/41053/14.	Haul off Wheel 2¾" dia. ⅝" wide.
596/41859/1.	Haul off Wheel 1.7/16" dia. Groove Dia. 1¼"
597/41859/2.	Haul off Wheel 1.5/16" dia. Groove Dia. 1"
598/41859/3.	Haul off Wheel 1.087" dia. Groove Dia. .9"
599/41859/4.	Haul off Wheel 1.5/16" dia. Groove Dia. 1⅛"

600/41859/5.	Haul off Wheel 1.⁵⁄₁₆" dia. Groove Dia. 1⅛"
601/41859/6.	Haul off Wheel 4" dia. Groove Dia. 1.⁵⁄₁₆"
602/41859/7.	Haul off Wheel 1¾" dia. Groove Dia. 1⅝"
603/41859/8.	Haul off Wheel 1⅞" dia. Groove Dia. 1¾"
604/41859/9.	Haul off Wheel 2" dia. Groove Dia. 1⅞"
605/41859/10.	Haul off Wheel 2⅛" dia. Groove Dia. 2"
606/41859/11.	Haul off Wheel 1¼" dia. Groove Dia. 1⅛"
607/41859/12.	Haul off Wheel 1⅝"dia. Groove Dia. 1½"
608/41859/13.	Haul off Wheel 1.57" dia. Groove Dia. 1½"
609/41859/14.	Haul off Wheel 1.³⁄₁₆" dia. Groove Dia. 1.¹⁄₁₆"
610/41859/15.	Haul off Wheel 1.⁵⁄₁₆" dia. Groove Dia. 1.³⁄₁₆"
611/41859/16.	Haul off Wheel 1.⁷⁄₁₆" dia. Groove Dia. 1.⁵⁄₁₆"
612/41859/17.	Haul off Wheel 2.³⁄₁₆" dia. Groove Dia. 2"
613/41859/18.	Haul off Wheel 1⅛" dia. Groove Dia. 1"
614/41859/19.	Haul off Wheel 1.¹⁄₁₆" dia. Groove Dia. ¹⁵⁄₁₆"
615/41859/20.	Haul off Wheel 1" dia. Groove Dia. ⅞"
616/41859/21.	Haul off Wheel ¹⁵⁄₁₆" dia. Groove Dia. ¹³⁄₁₆"
617/41859/22.	Haul off Wheel ⅞" dia. Groove Dia. ¾"
618/41859/23.	Haul off Wheel 1.³⁄₁₆" dia. Groove Dia. 1⅛"
619/43699/1.	Haul off Wheel 2" dia.
620/43699/2.	Haul off Wheel 2⅛" dia. 1¼" wide.
621/43699/3.	Haul off Wheel 2¼" dia. 1¼" wide.
622/43699/4.	Haul off Wheel 2⅜" dia. 1¼" wide.
623/43699/5.	Haul off Wheel 2½" dia. 1¼" wide.
624/41085/1.	Haul off Wheel 2" dia. ¾" wide.
625/41085/2.	Haul off Wheel 2¼" dia. ¾" wide.
626/41085/3.	Haul off Wheel 2⅜" dia. ¼" wide.
627/41085/4.	Haul off Wheel 2½" dia. ¾" wide.
628/41085/5.	Haul off Wheel 1⅜" dia. ¾" wide.
629/41085/6.	Haul off Wheel 1¾" dia. ¾" wide.
630/41085/7.	Haul off Wheel 1½" dia. ¾" wide.
631/41085/8.	Haul off Wheel 1⅝ dia. ¾" wide.
632/41085/9.	Haul off Wheel 3" dia. ¾" wide.
633/41085/10.	Haul off Wheel 2¾" dia. ¾" wide.
634/41085/11.	Haul off Wheel 3½" dia. ¾" wide.
635/41085/12.	Haul off Wheel 3⅜" dia. ¾" wide.
636/41085/13.	Haul off Wheel 4" dia. ¾" wide.
637/41085/14.	Haul off Wheel 3¾" dia. ¾" wide.
638/41085/15.	Haul off Wheel 1⅞" dia. ¾" wide.
639/41085/16.	Haul off Wheel 1¾" dia. ¾" wide.
640/41085/17.	Haul off Wheel 3¼" dia. ¾" wide.
641/41085/18.	Haul off Wheel 4½" dia. ¾" wide.
642/41085/19.	Haul off Wheel 3⅝" dia. ¾" wide.
643/41085/20.	Haul off Wheel 2⅛" dia. ¾" wide.
644/40822/1.	Haul off Wheel 2" dia. ⅝" wide.
645/40822/2.	Haul off Wheel 2¼" dia. ⅝" wide.
646/40822/3.	Haul off Wheel 2⅜" dia. ⅝" wide.
647/40822/4.	Haul off Wheel 2½" dia. ⅝" wide.
648/40822/5.	Haul off Wheel 1¾" dia. ⅝" wide.
649/40822/6.	Haul off Wheel 1" dia. ⅝" wide.
650/40822/7.	Haul off Wheel 5" dia. ⅝" wide.
651/40822/8.	Haul off Wheel 3½" dia. ⅝" wide.
652/40822/9	Haul off Wheel 1½" dia. ⅝" wide.
653/40822/10.	Haul off Wheel 3¼" dia. ⅝" wide.
654/40822/11.	Haul off Wheel 3" dia. ⅝" wide.
655/40822/12.	Haul off Wheel 3¾" dia. ⅝" wide.
656/40822/13.	Haul off Wheel 1¼" dia. ⅝" wide.
657/40822/14.	Haul off Wheel 1⅞" dia. ⅝" wide.
658/40822/15.	Haul off Wheel 2⅝" dia. ⅝" wide.
659/40822/16.	Haul off Wheel 2¼" dia. ⅝" wide.
660/40822/17.	Haul off Wheel 2⅞" dia. ⅝" wide.
661/40822/18.	Haul off Wheel 4" dia. ⅝" wide.
662/40822/19.	Haul off Wheel 2⅛" dia. ⅝" wide.
663/40822/20.	Haul off Wheel 4½" dia. ⅝" wide.
664/40822/21.	Haul off Wheel 3⅛" dia. ⅝" wide.
665/40822/22.	Haul off Wheel 4⅝" dia. ⅝" wide.
666/40822/23.	Haul off Wheel 1⅛" dia. ⅝" wide.
667/43579/1.	Haul off Wheel 2" dia. 1" wide.
668/43579/2.	Haul off Wheel 2⅛" dia. 1" wide.
669/43579/3.	Haul off Wheel 2¼" dia. 1" wide.
670/43579/4.	Haul off Wheel 2⅜" dia. 1" wide.
671/43579/5.	Haul off Wheel 2½" dia. 1" wide.
672/43579/6.	Haul off Wheel 1¾" dia. 1" wide.
673/43579/7.	Haul off Wheel 2¾" dia. 1" wide.
674/43579/8.	Haul off Wheel 3" dia. 1" wide.
675/43579/9.	Haul off Wheel 2⅝" dia. 1" wide.
676/43581.	Jockey Rollers 1⅝" dia. 1" wide.
677/41279.	Jockey Rollers 1⅝" dia. ¾" wide.

678/41283.	Jockey Rollers 1⅝" dia. ⅝" wide.
679/43701.	Jockey Rollers 1⅝" dia. 1¼" wide.
680/43580.	Pressure Rollers 2" dia. 1" wide.
681/41084.	Pressure Rollers 2" dia. ¾" wide.
682/40778.	Pressure Rollers 2" dia. ⅝" wide.
683/43700.	Pressure Rollers 2" dia. ¹⁷⁄₃₂" wide.
684/40874.	Haul off Wheel Nut.
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STANDARD UPPER HAUL OFF ⑪

Part No	Description
696/41083.	Pressure Roller Pin.
697/41276.	Jockey Roller Pin.
698/40880/A.	Hand Wheel.
699/40880/B.	Hand Wheel.
700/STD.	Dog end Screw for Hand Wheel.
701/43556/1.	Leaf Spring for Pressure Roller Bracket.
702/40866.	Pressure Roller Bracket.
703/40866/1.	Pressure Roller Bracket.
704/STD.	Dog end Screw.
705/41315.	Housing for Machine of 29 Carriers and over.
706/41274.	Jockey Roller Bracket.
707/41275.	Jockey Roller Bracket.
708/43697.	Jockey Roller Bracket.
709/43698.	Jockey Roller Bracket.
710/41271.	Pressure Roller Bracket 13 Carrier.
711/41272.	Pressure Roller Bracket 21 Carrier.
712/43695.	Pressure Roller Bracket 49-52 Carrier.
713/43696.	Pressure Roller Bracket 33-37 Carrier.
714/41677.	Hand Wheel Shaft 27½" O/A Length.
715/41677/1.	Hand Wheel Shaft 29¼" O/A Length.
716/42016.	Hand Wheel Shaft 24⅞" O/A Length.
717/44992.	144 Teeth Right Hand Worm Wheel.
718/43289.	94 Teeth Right Hand Worm Wheel for 2 Start Worm.
719/43289/1.	94 Teeth Left Hand Worm Wheel for 2 Start Worm.
720/40877.	94 Teeth Right Hand Worm Wheel.
721/41177.	94 Teeth Left Hand Worm Wheel.
722/44993.	1.55 O/D Single Start Right Hand Worm.
723/42323.	Two Start Right Hand Worm.
724/42323/1.	Two Start Left Hand Worm.
725/41178.	Single Start Left Hand Worm.
726/40875.	Single Start Right Hand Worm.
727/43648.	Pulley for Cable Braider.
728/42015.	Vertical Pillar 26" O/A x 1" Dia.
729/40884.	Vertical Pillar 25" O/A x ⅞" Dia.
730/41647.	Vertical Pillar 31" O/A x 1" Dia.
731/43855/1.	Overhead Reception Bracket 9 Carrier Machine.
732/43855/2.	Overhead Reception Bracket without flat on centre Boss.
733/41744.	Horizontal Shaft ¾" Dia. 20½" O/A
734/41466.	Horizontal Shaft ¾" Dia. 23" O/A.
735/41093.	Horizontal Shaft ¾" Dia. 24¼" O/A.
736/44119.	Horizontal Shaft ¾" Dia. 27" O/A.
737/41989.	Horizontal Shaft ¾" Dia. 25" O/A.
738/40954.	Horizontal Shaft ¾" Dia. 22" O/A.
739/41010.	Horizontal Shaft ¾" Dia. 27½" O/A.
740/40953.	Horizontal Shaft ¾" Dia. 22" O/A.
741/41743.	Horizontal Shaft ¾" Dia. 15⅜" O/A.
742/40853.	Housing for Machines up to 25 Carrier Machines.
743/42848/1.	4" Diameter Haul off Wheel. 49 Carrier Machine.
744/42848/2.	3½" Diameter Haul off Wheel. 49 Carrier Machine.
745/STD.	Grub Screw.

746/40889.	Pressure Roller Spring Collar.
747/40886.	Support for Braid Guide Disc Bracket.
748/STD.	5/16" B.S.F. Bolt.
749/41651.	Support Arm for Orme Counter 5" x 6 13/16"
750/41300.	Support Arm for Orme Counter 4 5/16" x 6 5/16"
751/	Orme Counter.
752/STD.	¼" B.S.F. Nut.
753/43207.	Capstan Shaft for 9 Carrier Machine.
754/40893.	Capstan Shaft for 12 and 13 Carrier Machines.
755/41009.	Capstan Shaft for 16 and 17 Carrier Machines.
756/41094.	Capstan Shaft for 20 and 21 Carrier Machines.
757/41452.	Capstan Shaft for 25 Carrier Machine.
758/43977.	Capstan Shaft for 29 Carrier Machine.
759/41990.	Capstan Shaft for 32 Carrier Machine.
760/43582.	Capstan Shaft for 33 and 37 Carrier Machines.
761/42945.	Capstan Shaft for 40 Carrier Machine.
762/44246.	Capstan Shaft for 49 Carrier Machine.
763/43453.	Capstan Shaft for 8 Carrier Machine Centre Drive.
764/41715.	Capstan Shaft for 8 Carrier Cable Machine.
765/43206.	Capstan Shaft for 8 Carrier Machine Side Drive.
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MOTOR PINIONS, FRONT COVERS & MISCELLANEOUS ITEMS ⑫

Part No	Description
770/41284.	Gear Cover 8" wide.
771/41287.	Gear Cover 8¼" wide.
772/41288.	Gear Cover 9" wide.
773/40895.	Intermediate Gear Stud.
774/STD.	⅜" B.S.F. Nut.
775/STD.	⅜" Spring Washer.
776/STD.	⅜" Standard Washer.
777/STD.	5/16" B.S.F. Setscrew.
778/STD.	5/16" Spring Washer.
779/STD.	5/16" Standard Washer.
780/40883.	Reduction Gear Stud.
781/STD.	No. 6 x ¼" Drive Screw.
782/40979.	Cable Clip Long.
783/40980.	Cable Clip Short.
784/40658.	Cup Bearing.
785/41815.	Locating Post. 8 Carrier Machine, Candlewick Machine and Cable Covering 8 Carrier Machine.
786/40619.	Locating Post. Standard.
787/44520.	Locating Post. 49 and 52 Carrier Machines.
788/41987.	Locating Post. 16 and 24 Carrier Cable Braiding Machines and 16 Carrier Double Decker M/c.
789/41027.	Jockey Roller Bracket.
790/41029.	Jockey Roller.
791/41001.	Distance Collar 1¼"
792/41001/1.	Distance Collar ¼"
793/43076/3.	Stud.
794/36076/1.	Foot.
795/40779/A.	Rubber Guide Tube ⅜" from end to screw head.
796/40779/B.	Rubber Guide Tube ¼" from end to screw head.
797/41279.	Rubber Guide Tube Flush with screw head.
798/41096.	Front Cover for 9, 20, 21, Carrier Machines.
799/40624.	Front Cover for 12 and 13 Carrier Machines.
800/41012.	Front Cover for 16 and 17 Carrier Machines.
801/41463.	Front Cover for 25 Carrier Machine.
802/29.	Front Cover for 29 Carrier Machine.
803/42007.	Front Cover for 32 Carrier Machine.
804/43142.	Front Cover for 33 Carrier Machine.
805/42947/1.	Front Cover for 37 Carrier Machine.
806/42947.	Front Cover for 40 Carrier Machine.
807/41499.	Front Cover for 24 Carrier Machine. Std.
808/44742.	Front Cover for 24 Carrier Machine. Small.
809/41012/1.	Front Cover for 16 Carrier Cable Machine.
810/43147.	Front Cover for 8 Carrier Machine.
811/43209/2.	Front Leg for 8 to 25 Carrier Machines.
812/43192/2.	Front Leg for 29 and 32 Carrier Machines.
813/43157/2.	Front Leg for 33, 37 and 40 Carrier Machines.
814/42288.	Front Leg for 16 Carrier Fishing Line Machine.
815/41816.	Locating post screw.
817/40966.	Table Bush.
818/41555.	Bearing Foot.
819/41848.	⅜" Bore Pinion. 12 Tooth.
820/43332.	⅜" Bore Pinion. 13 Tooth.
821/40871.	⅜" Bore Pinion. 14 Tooth.
822/41063.	⅜" Bore Pinion. 16 Tooth.
823/42531.	⅜" Bore Pinion. 17 Tooth.
824/44770.	¼" Bore Pinion. 13 Tooth.
825/42946.	5/16" Bore Pinion. 18 Tooth.
826/STD.	2 B.A. x ¼ Round Head Screw.
827/41204.	Yarn Eyelet.
828/	

PICOT EDGE ITEMS (13)

Part No	Description
829/41056.	Guide Roller Bracket Left Hand.
830/41057.	Guide Roller Bracket Right Hand.
831/43818.	Needle Guide Assembly.
832/43822.	Vertical Pillar for Needle.
833/43823.	Extension for Rubber Guide Tube.
834/43821.	Support for Top Guide Arm.
835/43817.	Top Guide Arm Assembly — 13 Carrier Machine.
836/43817/1.	Top Guide Arm Assembly — 17 Carrier Machine.
837/43817/2.	Top Guide Arm Assembly — 21 Carrier Machine.
838/43817/3.	Top Guide Arm Assembly — 25 Carrier Machine.
839/43817/4.	Top Guide Arm Assembly — 29 Carrier Machine.
840/43817/5.	Top Guide Arm Assembly — 33 Carrier Machine.
841/43817/6.	Top Guide Arm Assembly — 37 Carrier Machine.
842/45807.	Needle Assembly.
843/45807/1.	Needle Assembly.
844/45807/2.	Needle Assembly.
845/45807/3.	Needle Assembly.
846/45807/4.	Needle Assembly.
847/45807/5.	Needle Assembly.
848/45807/6.	Needle Assembly.
849/45807/7.	Needle Assembly.
850/45807/8.	Needle Assembly.
851/45807/9.	Needle Assembly.
852/45807/10	Needle Assembly.
853/43824.	Special Top Cap Assembly.
854/40956.	Guide Disc Support Bracket Left Hand.
855/40957.	Guide Disc Support Bracket Right Hand.
856/41055.	Steel Braid Guide Disc.
857/41058.	Guide Roller Pin.
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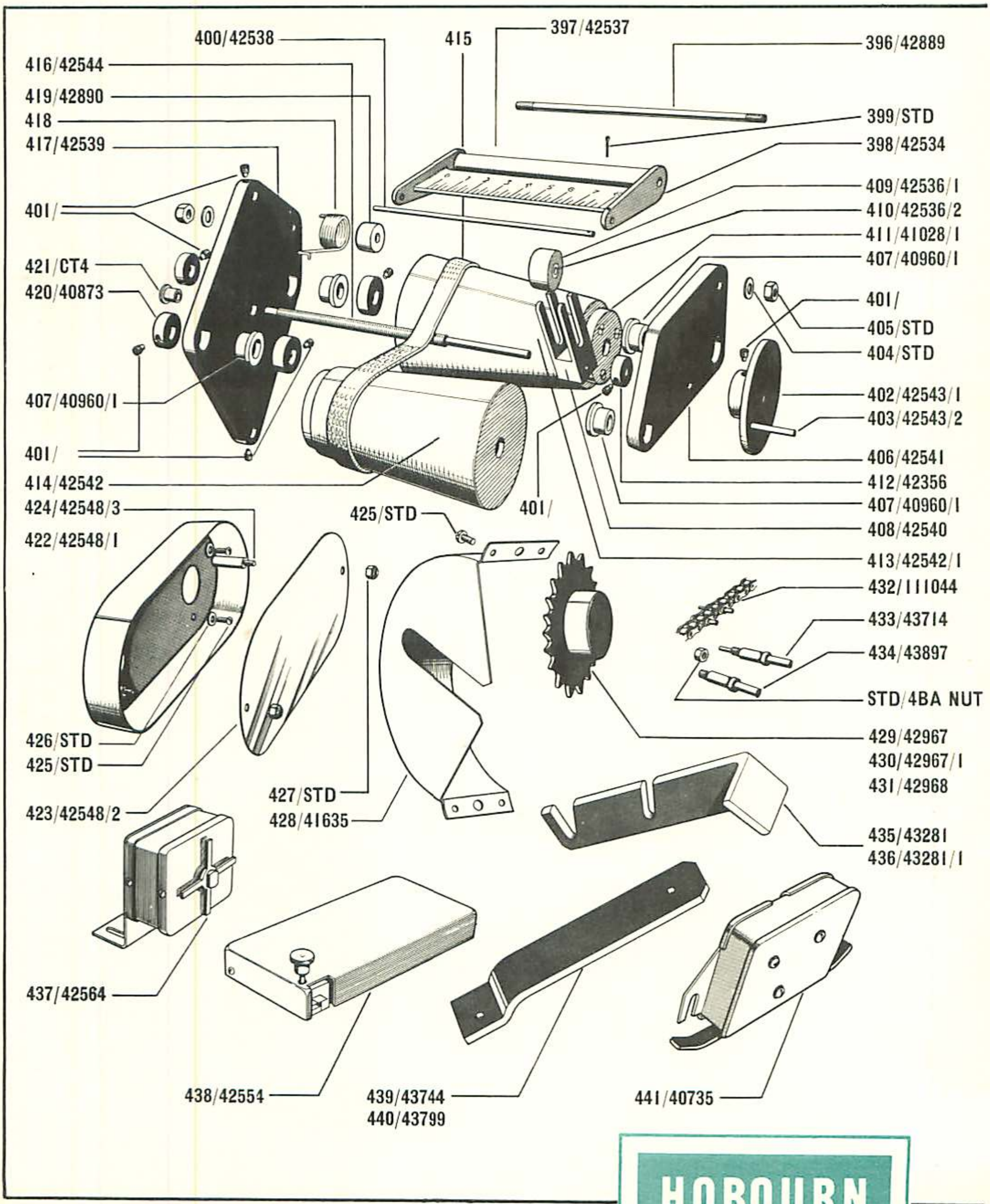
TAPER FISHING LINE MACHINE DETAILS COVERS & SWITCHES ⑦



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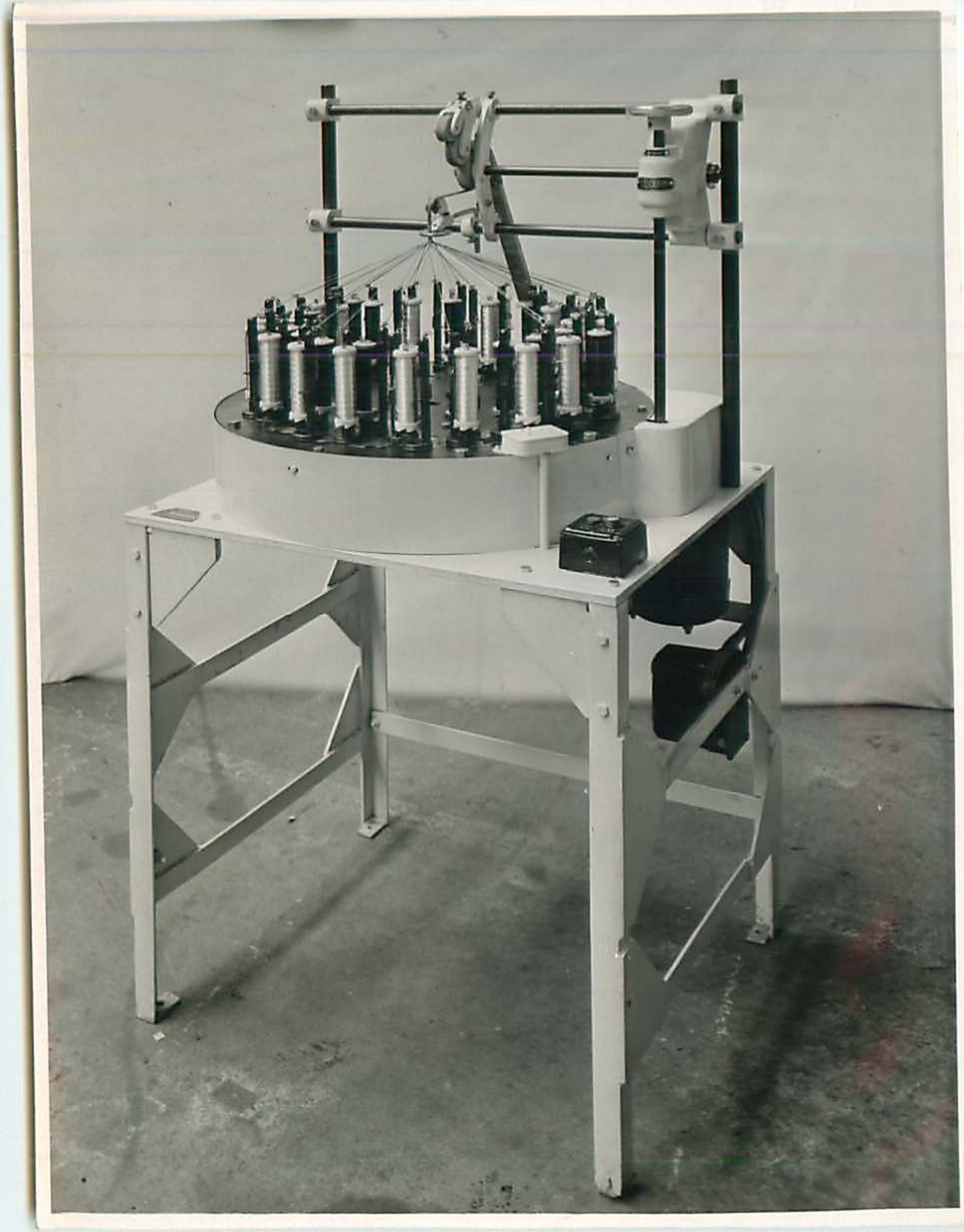

40 barrier Single Head
Pressure Roller Haul Off

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